REMARKS

Claims 29-40 are herein amended to better encompass the full scope and breadth of the present invention, notwithstanding the Applicant's belief that the claims would have been allowable as originally filed. Accordingly, the Applicant respectfully asserts that no claims have been narrowed within the meaning of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* (Fed.Cir. November 29, 2000). Therefore, reconsideration of the present application in light of the foregoing amendment and these remarks is respectfully requested. Herein amended Claims 29-40 are believed to be fully supported by the specification, and are believed to be in allowable form. Alternatively, the claims, as herein amended, are believed to be placed in better form for appeal. Thus, favorable consideration of the present continuation application is respectfully requested in light of the foregoing amendment, these remarks, and the herewith submitted exhibits.

Declarations of Applicant Noel Lee, under 37 C.F.R. §1.131(a) and 37 C.F.R. §1.132:

In paragraph 7 of the Office Action, the Examiner stated that the Declaration lacked sufficient evidence of long-felt need. In paragraph 3 of the Office Action, the Examiner has made a ***great leap of the imagination*** in surmising that ***a commercially viable prototype*** could constitute ***an offer for sale*** in order ***to rationalize an on-sale statutory bar***. However, in paragraph 7 of the Declaration of Noel Lee, filed under 37 C.F.R. §1.131(a), on December 12, 2000, the Applicant/Declarant specifically stated, "I conceived of the present invention in **May, 1993,** antedating the printed publication [of September 1997] disclosing the Kensington invention. The first ***commercially viable prototype*** was manufactured by Monster Cable Products, Inc. in **September, 1997, *generally in accordance with the proprietary drawing*** [of **July 28, 1994**] contained in hereto attached Exhibit A." **Thus, Monster's July 28, 1994, proprietary drawing also antedates Kensington's September 1997 publication (See herewith submitted Exhibit A) by over three years.**

Clearly, a "commercially viable prototype" means no more than a prototype which could be sold, but ***does not imply one that was held for sale at the time of its manufacture***. With respect to the Examiner's comments regarding due diligence, the Applicant continued to perform marketability studies and research into the human factors considerations associated

with the claimed invention from May 1993 through September 1997 and up until the filing of the provisional patent application in January 1998.

In paragraph 4 of the Office Action, the Examiner concludes that Exhibit A of the Declaration is not the claimed invention in order to summarily dismiss the issue of common ownership of the invention. The drawing ***generally shows a viable prototype*** of the claimed central power source having the distinct solid color coding scheme. That the submitted formal drawings are clearer, should not render the **July 28, 1994, informal lab drawing,** in the Declaration's Exhibit A, non-representative of the claimed invention. Engineer David Pitcher was under an "obligation of assignment" of the present invention as well as of the misappropriated "Kensington" subject matter to Monster Cable Products, Inc.. As evidence, a copy of the Patent and Confidential Information Agreement, signed by David Pitcher, in favor of Monster Cable Products, Inc. is herewith submitted in Exhibit C. **Therefore, the Applicant respectfully resubmits that the claimed invention and the subject matter of the Kensington disclosure were commonly owned at the time the invention was made.**

The Examiner further asserts (Office Action, para. 4) that the drawing date of **"July 28, 1997,"** is three years prior to the present application filing date of **"December 28, 2000,"** in order to further rationalize a statutory bar. In so asserting, the Examiner has not only misread the date of the informal laboratory drawing as well as failed to compute the correct priority date. The informal lab drawing was actually dated **"July 28, 1994,"** three years earlier than believed by the Examiner. The instant continuation application (filed December 12, 2000) claims priority from a non-provisional application S/N 09/221,761 (filed December 28, 1998), in turn, claiming priority from a **provisional application S/N 60/070,317 (filed January 2, 1998)**, as is evident from the Related Application Section (Specification, p. 1, para. 1) and from item 18 of the Utility Patent Application Transmittal Form (form PTO/SB/05) therewith filed December 12, 2000. **Thus, the Applicant filed the priority application (i.e., the provisional application) on January 2, 1998, which is, at most, only five (5) months after the September 1997 viable prototype date.** The Examiner's assumption, that a mere five months for continued exploration of marketability could possibly constitute a lack of due diligence on the Applicant's part, is perplexing. Therefore, the Applicant respectfully submits that the Examiner's contention that the Applicant has not exercised due diligence is unfounded.

The Examiner has cited *Demaco Corp. v. F. Von Langsdorf Licensing, Ltd.* (1988), in asserting insufficient evidence of commercial success (Office Action, para. 6). The Applicant respectfully asserts that the Declaration of Noel Lee, under 37 C.F.R. §1.132, provides sufficient evidence of the nexus between commercial success and the merits of the present invention. The general rule for sufficiency of evidence with respect to commercial success is stated in *Winner International Royalty Corp., Inc. v. Wang,* No. 96-2107, 48 USPQ2d 1139 (D.C.D.C. June 12, 1998), decided 10 years after and being consistent with *Demaco*: **"Plaintiff's evidence is sufficient to establish commercial success of invention ..., since evidence shows that plaintiff has sold more than 1.5 million devices, worth more than $60 million in sales, since this economic data supports plaintiff's position that its device is able to command significantly higher retail price ... to meet peculiar needs of certain consumers, ... is clearly consistent with the fact of commercial success."**

In the present case, paragraph 7 of Noel Lee's Declaration, under 37 C.F.R. §1.132, states, **"A need for a solid color-coded central power source has been long felt in the electronic components industry.** Although stymied by the peripheral device connection confusion imparted by plain plug strips, the industry had made no progress toward my solution to the problem. No other manufacturer has been known to have made a solid color-coded central power supply having peripheral device identification prior to my invention. **Further, the present invention is currently experiencing record sales and has dominated the market sector in the area of plug strips both domestically and in Asia. In addition, two large retailers, Good Guys™ and Sound Advice™ have completely discontinued sales of the competitor's plug strip (Panamax™) and are exclusively carrying only the present invention central power supply (See Exhibit B containing Monster Cable Products, Inc.'s sales figures;** also see herewith submitted Declaration under Rule 132 of Karen Johnson for Good Guys, Inc.)." Specifically, Exhibit B of his Declaration demonstrates **458,010 units sold worth $8,857,605.13 in retail sales** to the date of November 13, 2000. Thus, under *Winner*, Noel Lee's Declaration provides sufficient evidence of the nexus between the merits of the invention and commercial success. Therefore, the Applicant respectfully requests reconsideration of Noel Lee's Declarations.

Declaration of Retailer Karen Johnson under 37 C.F.R. §1.132:

In paragraph 6 of the Office Action, the Examiner stated that the Declaration of Karen Johnson of Good Guys, Inc. lacked evidence of the requisite nexus between the factor of commercial success and the merits of the claimed invention. In paragraph 7 of the Office Action, the Examiner stated that the Declaration lacked sufficient evidence of long-felt need. The Applicant respectfully asserts that the Declaration of Karen Johnson provides sufficient evidence of the nexus between commercial success and the merits of the present invention. As discussed supra, the general rule of *Winner* is also applicable here: **"Plaintiff's evidence is sufficient to establish commercial success of invention ..., since evidence shows that plaintiff has sold more than 1.5 million devices, worth more than $60 million in sales, since this economic data supports plaintiff's position that its device is able to command significantly higher retail price ... to meet peculiar needs of certain consumers, ... is clearly consistent with the fact of commercial success."**

Here, in the instant case, paragraph 3 of Ms. Karen Johnson's Declaration states, "**A need for a solid color-coded central power source has been long felt in the electronic components retail industry**. Although retail consumers have been stymied by the peripheral device connection confusion imparted by plain plug strips, the manufacturing industry had made no progress toward the Monster solution as no other manufacturer was known to have made a solid color-coded central power supply having peripheral device identification prior to the present invention. Further, **the Monster product is currently experiencing record sales through our retail chain and has dominated the market sector in the area of plug strips**. In addition, we have completely discontinued sales of the competitor's plug strip (Panamax™) and are exclusively carrying only the Monster color-coded central power supply **(See Exhibit A containing out retail sales figures and market share data)**." Specifically, Exhibit A of her Declaration shows **31,657 units sold worth $1,487,796.83 in retail sales** to the date of November 13, 2000. Thus, under *Winner*, Karen Johnson's Declaration also provides sufficient evidence of the nexus between the merits of the invention and commercial success. Therefore, the Applicant respectfully requests reconsideration of Karen Johnson's Declaration.

Declaration of Expert Witness Dr. Albert Mehrabian under 37 C.F.R. §1.132:

In paragraph 8 of the Office Action, the Examiner engages in result-oriented circumlocution in stating that "However, as interpreted[,] the declaration supports the notion of expected beneficial results. 'A solid color-coded device having peripheral device identification, constitutes a sol[i]d colored image which requires far less mental processing than required by the cited art ....' It appears that through his extensive research, [Dr. Mehrabian] expects for there to be a 'substantial advantage in using solid colors of high chroma ... expected beneficial results are evidence of obviousness just as unexpected results are evidence of unobviousness." What is at issue here is ***not whether there is "substantial advantage in using solid colors of high chroma," but whether "using solid colors of high chroma" in combination with a central power center (e.g., a plug strip apparatus) or a central power center kit is obvious***. Further, the first sentence quoted by the Examiner is a statement of the expert witness' findings as to the unexpected results of the present invention ***combination of elements***, not a statement regarding his knowledge of ***solid colors of high chroma*** alone. Based on this flawed reasoning, the Examiner refused to consider the Declaration in its entirety for failure to provide photocopies of the cited references. As such, photocopies of the cited references are herewith submitted in this Response's Exhibit B for the Examiner's consideration. Therefore, the Applicant respectfully requests reconsideration of Dr. Mehrabian's Declaration.

Objection under 35 U.S.C. §132 as to the Amendment:

The Examiner has objected to the preliminary amendment, under 35 U.S.C. §132, stating that the "amendment filed December 12, 2000, ... may introduce new matter into the disclosure. ... 'solid color areas', and the kit which now comprises more than 'a plurality of indicia element sets ....'" **MPEP §706.03(o)** provides: "If subject matter capable of illustration is originally claimed and it is not shown in the drawing, the claim is not rejected but applicant is required to add it to the drawing." Further, **MPEP §608.01(l)** provides: "... applicant may rely not only on the description and drawing as filed but also on the original claims ...." These sections ***do not preclude*** the Applicant from ***amending his claims to reflect that which has been originally disclosed in his drawings***. The Applicant respectfully submits that the "solid color areas" are fully supported by the **drawings** (See Figs. 1-3) which **visually**

indicate solid color areas; therefore, the **solidity of colors is implicit to the Specification via the informal drawings, as originally filed**. With respect to the kit, Claims 37, 39, and 40 are herein amended to better encompass the kit as comprising the plurality of indicia element sets and by deleting the remaining limitations to the central power center apparatus as is fully supported by the Specification. Therefore, the Applicant respectfully requests that the Examiner's grounds for objection on this basis be withdrawn as to Claims 29-40.

Objection under 37 C.F.R. §1.75(c) as to Claims 37, 39, and 40:

The Examiner has objected to Claims 37, 39, and 40, under 37 C.F.R. §1.75(c), as being in improper dependent form. Claim 37 is herein amended to depend from Claim 29; Claim 39 is herein amended to depend from Claim 33; and Claim 40 remains depending from Claim 39. Therefore, the Applicant respectfully requests that the Examiner's grounds for objection on this basis be withdrawn as to Claims 37, 39, and 40.

Rejection under 35 U.S.C. §112, second paragraph, as to Claims 29-40:

The Examiner has rejected Claims 29-40, under 35 U.S.C. §112, second paragraph, as being indefinite, stating "Regarding Claims 29, 33, 37, and 39, it is not clear what is meant by *said housing having a plurality of discrete, solid colored areas disposed near certain ones of said plurality of outlets*. .... The phraseology, 'disposed near certain ones' is vague, and indefinite." Claim 29 is herein amended to better encompass the present invention to read "said housing also having a plurality of discrete, solid colored areas, each said discrete solid colored area being ***disposed on and surrounding*** each outlet of said plurality of outlets for associating said each outlet of said plurality of outlets with a particular color, and for associating each outlet of said plurality of outlets with each peripheral device of said plurality of peripheral devices." Claim 30 is herein amended to better encompass the present invention to read "said housing also having a plurality of discrete areas for receiving a plurality of solid colored stickers and a plurality of color coded indicia disposed proximately to each outlet of said plurality of outlets for retrofitting said plurality of outlets, said plurality of solid colored stickers and said plurality of color coded indicia for associating each outlet of said plurality of outlets with a particular color, and for associating each outlet of said plurality of outlets with each device of said plurality of peripheral devices." Claims 37 and 39 are herein

amended by deleting the foregoing limitation and to depend from Claims 29 and 33, respectively, as discussed supra, thereby subsuming the limitations of herein amended Claims 29 and 33, respectively, and thereby rendering this ground for rejection moot. Claims 30-32 and 34-40 also now subsume the limitations of the herein amended claims from which they depend. Therefore, the Applicant respectfully requests that the Examiner's grounds for rejection on this basis be withdrawn as to Claims 29-40.

Rejection under 35 U.S.C. §102(b) as to Claims 29 and 30:

The Examiner has rejected Claims 29 and 30, under 35 U.S.C. §102(b), as being anticipated by Kensington SmartSockets Strip Model and Adapter Model reviewed by La Mont Ridgell of MacUser, published September 1997, stating "the Kensington SmartSocket Strip meets all of the limitations of claims 29 and 30." Claim 29 is herein amended to better encompass the instant invention, as discussed supra. In particular, herein amended Claim 29 affirmatively recites the present invention's unique features: said housing also having a plurality of discrete, solid colored areas, **each said discrete solid colored area being disposed on and surrounding each outlet** of said plurality of outlets for associating said each outlet of said plurality of outlets with a particular color, and for associating each outlet of said plurality of outlets with each peripheral device of said plurality of peripheral devices. Claim 30 now subsumes the limitations of herein amended Claim 29.

Notwithstanding Claim 29 being herein actually amended and Claim 30 being herein effectively amended to more fully encompass the present invention, the Applicant hereby respectfully traverses the Examiner's ground for rejection on this basis. The Kensington apparatus ***merely comprises thin colored rings disposed at a notable radius away from the outlets***. In contrast, the present invention comprises **discrete solid colored areas which are disposed on *and* surrounding the outlets** (i.e., ***proximally surrounding the outlets*** as shown in Figs. 1-3), which permits better peripheral device connection identification than does the Kensington apparatus. Herein amended Claim 29 clarifies the distinction between these inventions. The Kensington invention comprises *six pairs of labels* (i.e., *only two* stickers per set) matching *colored rings* disposed around each socket. In contrast, the present invention utilizes *at least three* stickers per color set and further provides either a *solid colored portion* or a *plain portion being retrofitted with a solid colored sticker.*

Reiterating the relevant human factors considerations alluded in the Response to Final Office Action dated May 22, 2000, the present invention solid colored portions or portions being retrofitted with solid colored stickers appear more prominent to the human eye than do the cited art colored rings. As such, the Kensington colored rings do not provide the superior visual indicia of the instant invention. In order to grasp this concept, the physiological concept of *visual acuity*, must be considered with respect to the claimed invention. Two classes of photoreceptors reside in the human eye, rods and cones. Rods perceive light and dark while cones perceive color. *Cones are usually concentrated in an area of the retina where the most direct beams will fall*, the area of greatest concentration being the *fovea centralis*. Ross M. Durham explains:[1]

> The fovea centralis is directly behind the lens, positioned to be right in the middle of images that enter the eye. It is the focal point of our visual field - the center of optical precision. It's the optic zone where the highest concentration of visual receptors exists; hence, it has the finest "grain" and is the point in the eye of greatest visual acuity. Nearly all the receptors in the human fovea are cones, and there are a great many of them packed into its square millimeter. This is the part of the eye that perceives details for us.

Thus, the greatest visual acuity and the greatest visual efficacy, as human factors, are provided by the present invention use of solid colored stickers, not by the cited art colored rings. By so tailoring the solid colored components in the Applicant's apparatus, the user will be able to better see and follow a pathway from a given peripheral device to its respective housing member portion. The Applicant takes further exception to the Examiner's prior assertion that the foregoing physiological principles are "contrived," as such principles form the very basis of camouflage (e.g., cited art stripes, rings, etc.), the antithesis of the present invention.

In particular, Professors of Environmental Psychology, Drs. Patricia Valdez and Albert Mehrabian, explain the psychology of color perception:[2]

> "Showiness" (assumed here to be indicative of the arousing quality of a color) correlated positively with saturation and brightness. Furthermore, "calmness" (assumed to be indicative of the nonarousing quality of a color) correlated negatively with brightness. Together, these

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[1]Robert M. Durham, Human Physiology - Functions of the Human Body, p. 262 (Wm. C. Brown, publishers, 1989).

[2]Patricia Valdez and Albert Mehrabian, Effects of Color on Emotion, J. of Experimental Psychology: General, V. 123, p. 396-397, Amer. Psych. Assn., Inc. (1994).

> results suggest that arousal is a positive correlate of color saturation and brightness.
>
> ...
>
> The following effects of hue were evident across the 23 samples as a group: ... *grey was bad, weak, and inactive*; ... and *color was good and active*. In addition, ..., and *activity was strongly associated with color (vs. no color)*.

Further, the psychology of *patterned* images (e.g., broken by rings and stripes) versus *solid* images (e.g., uniform blocks of color) is described by Drs. James A. Russell and Albert Mehrabian as an environmental variable in consumer research:[3]

> Psychologists have traditionally explained a person's behavior in general - and consumer behavior in particular - as a function of two classes of variables: those variables describing differences in environments (an environment being anything that is external to the person whose behavior is being explained and that can be measures independently of that person - ...) and those variables describing differences in the persons (whatever a person brings with him to the environment and that can be measured independently of the environment).
>
> ...
>
> We first turned to the studies of perception .... The variables included hue, brightness, and saturation of colors; .... We therefore turned to evidence on cross-modality in which an individual is stimulated. ... there are basic responses to all types of stimuli. ... from ... color patches to whole environments filled with ... changing physical inputs.
>
> ...
>
> ... But information theory ... provides a powerful concept that helps describe the arousing quality of stimuli: the information rate of an environment. Environments that include more novel, complex, intense, unfamiliar, improbable, changing, moving, or uncertain aspects are greater in information rate.

Thus, simple environments (e.g., color patches such as in the present invention), having a lower information rate than complex environments (e.g., thin colored rings around grey outlets in the Kensington device), are more efficiently perceived and recognized by the user as the mental processing rate is inversely proportional to the information rate of the environment. Conversely, patterned images require considerably greater visual and mental processing than do solid images. Thus, the Applicant respectfully submits that the Kensington invention does not anticipate the present invention integral or retrofitted solid color-coding as applied to a plug strip apparatus, intermediate cords, and peripheral devices which provides faster superior visual and mental recognition. Therefore, the Applicant respectfully requests that the Examiner's grounds for rejection be withdrawn as to Claims 29 and 30.

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[3]James A. Russell and Albert Mehrabian, Environmental Variables in Consumer Research, J. of Consumer Research, V. 3, pp. 62-63 (June, 1976).

Rejection under 35 U.S.C. §102(b) as to Claims 29-32:

The Examiner has rejected Claims 29-32, under 35 U.S.C. §102(b), as being anticipated by U.S. Patent No. 5,589,718 to Lee, stating "The '718 Patent teaches an input power cord (14), a plurality of output receptacles (16a-h), and a housing member (12). .... Additionally, the '718 Pat. teaches color-coding system such that the outlets are assigned a different color." Claim 29 is herein amended, as discussed supra; and Claims 30-32 now subsume the limitations of herein amended Claim 29. Claim 30 also retains the language "a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to each peripheral device of said plurality of peripheral devices utilizing said power strip apparatus." Claim 31 retains "a plurality of solid colored electrical extension cords for selective attachment to said power strip apparatus." Claim 32 retains "a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to each peripheral device of said plurality of peripheral devices utilizing said solid colored electrical extension cord."

Notwithstanding Claim 29 being herein amended to more fully encompass the present invention, the '718 Patent does not even teach the use of color-coding as applied to a power strip apparatus. Rather, the '718 Patent teaches a limited form of color-coding in combination with *power line conditioner only*, the *limited form of color-coding* involving red, stripes, and rings. The present invention uses ***an unlimited color-coding in combination with a power strip apparatus,*** **not** a *limited color-coding with a power line conditioner.* Professional Engineer Charles F. Kerchner, Jr., defines a power line conditioner:[4]

> **Power Line Conditioner** - A PLC is a combination of a voltage regulating transformer with a super isolation transformer which provides smooth, regulated, noise free, AC voltage with no ohmic connection between input and output. A PLC will solve most problems other than complete power failure.

Thus, the claimed invention comprises an outlet strip for centralizing a power supply does not perform the same functions as a power line conditioner. In contrast, the '718 Patent discloses

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[4]Charles F. Kerchner, Jr., P.E., President, Kalglo Electronics Co., Inc., *Power Line Problems -- An Introduction*, URL: http://www.kalglo.com (1985, last revised 5/7/92).

only a power line conditioner which, by definition, provides all of the following functions: (1) *undervoltage and overvoltage regulation,* (2) *surge and spike protection,* and (3) *line noise filtration.*[5] Thus, a power line conditioner is a different device which performs a set of functions distinct from the instant power strip apparatus. Therefore, the Applicant respectfully submits that neither the '718 Patent (red, stripes, and rings on a power line conditioner) does not anticipate the claimed invention combining unlimited *solid color-coding* (both integral and retrofitted) as applied to a *power strip apparatus with peripheral device indicia*, to intermediate electrical cords, and to peripheral devices. Therefore, the Applicant respectfully requests that the Examiner's grounds for rejection this basis be withdrawn as to Claims 29-32.

Rejection under 35 U.S.C. §103(a) as to Claims 33-40:

The Examiner has rejected Claims 33-40, under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 5,589,718 to Lee, stating, "It would have been obvious ... to modify the device taught by '718 Pat., to include stickers to attach to either: discrete areas of the housing extension cords, or peripheral devices or any combination/sub-combination thereof, because consistent with the scope of the '718 Pat. invention, color indicia/(stickers) attached throughout the entire system ... enables the various outlets provided to be easily identified and thus insures that each component connected thereto will be connected to an outlet specifically designed for the particular electronic characteristic for the component."

Herein amended Claim 33 affirmatively recites an AC electrical power strip apparatus having a plurality of electrical outlets, said apparatus comprising: an input power cord member; an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets; and a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing also having a plurality of discrete areas for receiving a plurality of solid colored stickers and a plurality of color coded indicia disposed proximately to each outlet of said plurality of outlets for retrofitting said plurality of outlets, said plurality of solid colored stickers and said plurality of color coded indicia for associating each outlet of said plurality of outlets with a particular color, and for associating each outlet of said plurality of outlets with each device of

[5]Cole-Parmer Catalog, pp. 212-213 (1998).

said plurality of peripheral devices.

Claims 34-36 now subsume the limitations of the herein amended claims from which they depend. Claim 34 retains the language "a plurality of sets of a plurality of solid colored stickers for selective attachment to an interconnecting electrical cord and to each said peripheral device utilizing said power strip apparatus." Claim 35 retains the language "a plurality of solid colored electrical extension cords for selective attachment to said power strip apparatus." Claim 36 retains the language "a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to each said peripheral device utilizing said solid colored electrical extension cord." Herein amended Claim 37 affirmatively recites "an AC electrical power strip apparatus, as recited in Claim 29, further comprising a kit, the kit comprising: a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to said each peripheral device utilizing said power strip apparatus."

Herein amended Claim 38 affirmatively recites a method of providing AC power to a plurality of peripheral devices by color-coding, said method comprising the steps of: (a) providing an AC electrical power strip apparatus having a plurality of color coded indicia for a plurality of electrical outlets thereon for associating a plurality of peripheral devices coupled thereto, said apparatus comprising: an input power cord member, an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets, and a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing also having a plurality of discrete, solid colored areas disposed on and surrounding each outlet of said plurality of outlets for associating each outlet of said plurality of outlets with a particular color, and for associating each outlet of said plurality of outlets with each device of said plurality of peripheral devices; (b) providing a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to said each peripheral device utilizing said power strip apparatus; (c) providing an indicia element on each said solid colored area with identification information of each said peripheral device to be plugged to a solid colored area; (d) tagging each said peripheral device with one of said provided solid colored stickers; (e) tagging said interconnecting electrical cord with one of said provided solid colored stickers; and (f) attaching the tagged interconnecting electrical cord to the corresponding solid colored

area on the AC power strip.

Herein amended Claim 39 affirmatively recites an AC electrical power strip apparatus, as recited in Claim 33, further comprising a kit, the kit comprising: a plurality of sets of at least three like solid colored stickers, one of said set for selective attachment to said each area, to an interconnecting electrical cord, and to a peripheral device utilizing said power strip apparatus. Claim 40 affirmatively recites a plurality of solid colored electrical extension cords for selective attachment to said power strip apparatus of Claim 39. Claims 37-40 now subsume the limitations of the herein amended claims from which they depend.

Notwithstanding Claims 33-40 being herein either actually or effectively amended to better encompass the present invention, the Applicant respectfully traverses the Examiner's grounds for rejection on this basis. Reiterating, the solid colored areas, or areas being retrofitted by solid colored stickers, of the present invention are substantially more prominent to the human eye than the cited art colored rings or stripes, as discussed supra. In further support, please see the previously submitted Declaration of Dr. Albert Mehrabian, under 37 C.F.R. §132. In addition, the very purpose of the present invention is *not* to hardwire. Thus, the present invention provides nearly unlimited flexibility in allowing the user of any type of electronic peripheral device to customize his/her electronic "hook-ups" without "hang-ups" to an AC power strip. Since the color-coding is applied to a plug strip rather than to a specialized electronic apparatus, the user may connect *any* peripheral device to *any* outlet with *any* interconnect that he/she so chooses. The present invention allows the user to designate (via the retrofitting option) the color-coding, because the interconnects and the stickers are not "hardwired." Only the present application teaches the unique set of features comprising: (a) color-coding of a power strip using *solid* colors for each power outlet (See Claims 29, 30, 31, 32); (b) power cords in solid colors to correspond to the colors in the power strip, or, alternatively, colored stickers that can be attached to existing power cords supplied by manufacturers (See Claim 31); (c) colored labels for retrofitting an existing power strip (See herein amended Claims 33) or, alternatively, colored stickers with labels that can be attached to existing cords and/or equipment (See Claim 32); and (d) a plurality of power outlets in conjunction with corresponding different solid colors for each outlet (See Claims 29, 33, 37, 38, 39).

Also, areas of the housing member are either integrally or retrofittedly provided with

solid color coded stickers and solid color coded indicia for distinguishing and associating a particular peripheral device to be electrically engaged at an outlet. Thus, while the solid colored stickers serve to identify the pathway (via any intermediate combination of cords) to a peripheral device, either a solid colored area of the housing member or a solid colored sticker having an integrally formed indicia for identifying that device (e.g., symbols, numbers, words, or acronyms) is provided in the present invention. Therefore, the Applicant respectfully requests that the Examiner's grounds for rejection on this basis be withdrawn as to Claims 33-40.

Rejection under 35 U.S.C. §103(a) is Improper as to Claims 29-40:

The Examiner has rejected Claims 29-40 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 5,589,718 to Lee, in view of U.S. Patent No. 5,775,935 to Barna, and in further view of U.S. Patent No. 5,366,250 to Sunabe, as well as over Kensington, in view of Sunabe, stating "It is obvious ... to modify '718 Pat. with the teachings of Barna, because Barna objective was to "provide a cable connecting system that secure a color coded alignment strip [] in a manner that prevents inadvertent removal of the alignment strip. .... It would have been obvious ... to modify the teachings of Sunabe because as Sunabe discloses a visual pattern system reduces errors in wiring, and also makes tracing easier, and provides codes with stand out from conventional wiring diagrams, by 'providing two indicia in a single component. .... It would have been obvious ... to combine the teachings of Kensington with the teachings of Sunabe because both solve the same problem utilizing indicia/indicia means for 'end to end' correct attachment of wires to reduce errors or mistakes in connecting or disconnecting of wires.'"

Notwithstanding Claims 29-40 being herein either actually or effectively amended to better encompass the present invention, the Applicant hereby respectfully traverses the Examiner's grounds for rejection on this basis and respectfully submits that the rejection of claims, especially as stated in Paragraph 43 of the Office Action, is improper. The Applicant respectfully submits that the Examiner's primary motive and grounds for rejection involve inadvertent **hindsight reconstruction** and that the rejection based on such hindsight reconstruction is improper.

In quoting *In re Bozek*, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969), the Examiner

asserted:

> It is the examiner's position that this is obvious. It is [] well settled that obviousness may be concluded from **common knowledge** and **common sense** of the person skilled in the art without a specific hint or suggestion. .... It is **common sense** that the stickers (or any other matching indicia) are essential to the invention. It is the examiner's position that Applicant is attempting to patent an old idea that is not novel. This after-market kit could be colored duct tape, colored diskette labels, post-it™ notes or tabs, packed with as many colors to accommodate the outlets of a power strip. **Person with less than that of ordinary skill in the art** have used labels or indicia means to color-code/ match.

In so stating, the Examiner has demonstrated a misunderstanding of the current criteria for rendering an obviousness rejection, such criteria being promulgated over a decade ago. *In re Bozek*, decided back in **1969**, has been implicitly narrowed by *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. **1992**):

> Vital Signs has not offered sufficient independent evidence to support the district court's decision to combine elements from different references, arguing only that the suggestion to combine references comes from knowledge and common sense of a person of ordinary skill in the art. See, e.g., *In re Bozek*, ... **That common knowledge may have been within the province of the ordinary artisan does not in and of itself make it so, absent clear and convincing evidence of such knowledge.** See *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fec. Cir. 1998); *Ashland Oil, Inc. v. Delta Resins and Refractories, Inc.*, 776 F.2d 281, 297-98, 227 USPQ 657, 667 (Fed. Cir. 1985). Vital Signs, thus failed ... to establish why one of ordinary skill would have found it obvious to combine ... limitations in a particular way to achieve the ... invention.

Yet, in the present case, the Examiner has not presented any evidence whatsoever that "a person *of ordinary skill in the art,"* the relevant art here being in the area of plug strip apparatuses, would have thought *to combine a plug strip with a solid color coding system with optional peripheral device indicia and an optional sticker kit.*

In re Bozek has also been implicitly narrowed by *In re Jones* (1992), in restating the rule of *In re Fine* (1988):

> Before the PTO may combine the disclosures of two or more prior art references in order to establish prima facie obviousness, **there must be some suggestion for doing so** .... *In re Fine*, 837 F.26 1071, 1074, 5 USPQ2d 1596, 1598-99 (Fed. Cir. 1988). [at 1943] [emphasis added]
>
> ... the combination ... is not an extraordinary invention; it is deceptively simple. However, simplicity alone cannot be determinative of obviousness. See *Gentry Galley, Inc. v. Berkline Corp.*, 143 F.3d 1473, 1478 [45 USPQ2d 1498] (Fed. Cir 1998); See also *In re Oetiker*, 977 F.2d 1443, 1447 [24 USPQ2d 1443] (Fed. Cir. 1992) (**"Simplicity alone is not inimical to patentability."**). The standard of obviousness is not whether in hindsight, it seems elementary that someone would have combined these certain elements in the prior art to form the invention

> in question. .... It is insufficient to prove that at the time of the claimed invention, the separate elements of the device were present in the known art. Rather, there must have been some explicit teaching or suggestion in the art to motivate one of even ordinary skill to combine such elements so as to create the same invention. See *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957 [43 USPQ2d 1294] (Fed. Cir. 1997).
>
> The prior art **must provide** one of ordinary skill in the art the **motivation** to make the proposed molecular modifications needed to arrive at the claimed compound. [at 1944] [emphasis added]

The Applicant respectfully submits that ***the Examiner has inadvertently allowed the present invention's simplicity to prejudice her examination of the claims*** under 35 U.S.C. §103, especially in light of her statement (Office Action, para. 43) that ***"Person with less than that of ordinary skill in the art*** have used labels or indicia to color-code/match."

Further, *In re Fritch*, 922 F.2d 1260, 23 USPQ.2d 1780 (Fed. Cir. 1992), held:

> Mere fact that prior art may be modified to reflect features of claimed invention does not make modification, and hence claimed invention, obvious **unless desirability of such modification is suggested by prior art** .... [at 1780] [emphasis added]
>
> The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious **unless the prior art suggested the desirability of the modification**. *In re Gordon*, 733 F.2d at 902, 221 USPQ at 1127. [at 1783] [emphasis added]

More recently, *Winner International Royalty Corp. v. Wang*, No. 96-2107, 48 USPQ.2d 1139 (D.C.D.C. 1998) has reinforced the foregoing rule, that the motivating suggestion must be explicit, in holding:

> ... invention cannot be found obvious **unless there was some explicit teaching or suggestion in art to motivate** one of even ordinary skill to combine elements so as to create same invention. [at 1140] [emphasis added]
>
> ... there **must have been some explicit teaching or suggestion in the art to motivate** one of even ordinary skill to combine such elements so as to create the same invention. [at 1444] [emphasis added]

From the very beginning of examination, the Examiner has prejudged the instant case under a misconception of the current case law. **As such, the Examiner has not proffered any evidence of any explicit teaching or suggestion in the relevant art (i.e., plug strip apparatuses) to motivate one of even ordinary skill to combine elements so as to create same invention.**

Yet even more recently, on November 2, 2000, a rejection of claims under 35 U.S.C. §103 was reversed by the U.S.P.T.O. Board of Patent Appeals and Interferences in *Ex Parte Yamamoto*, 57 USPQ2d 1382, 1384, on the ground that the ***examiner's mere conjecture and***

speculation (e.g., the Examiner's assertion of "common sense and common knowledge"), that one of ordinary skill in the art would have considered a prior art composition used for stabilizing higher aliphatic aldehyde compounds to also be useful for stabilizing the applicant's claimed functional-group-containing compounds, ***are insufficient for making an obviousness rejection***.

The appealed invention of *Ex Parte Yamamoto* involves a method for stabilizing a *long-chain unsaturated aliphatic* ester, alcohol, ketone, or hydrocarbon, having at least ten carbon atoms and at least one double bond, by admixing with stabilizers *2'-(2'-hydroxy-5'methylphenyl)benzotriazole and a phenolic compound* at *0.1 - 10 wt. %* of the long-chain unsaturated aliphatic compound. The examiner's cited reference, Ishihara et al. (U.S. Patent No. 4,568,771), disclosed a method for stabilizing an *aliphatic higher aldehyde compound* (i.e., a *pheromone*) by admixing with a stabilizer selected from a group consisting of *salicylic acid compounds, benzotriazole compounds* (e.g., *2'-(2'-hydroxy-5'methylphenyl)benzotriazole*), and other compounds (e.g., *di-tert-butyl-p-cresol*) at *0.01 - 10 wt. %* of the aldehyde compound. In reversing the rejection, the Board reasoned that the cited art method for stabilizing a *pheromone*, which happens to be an *aldehyde*, does not teach, motivate, nor suggest the claimed method for stabilizing *a long-chain unsaturated aliphatic compound* (e.g., an ester, a alcohol, a ketone, or a hydrocarbon having at least ten carbon atoms and at least one double bond) using a similar stabilizer composition (i.e., *2'-(2'-hydroxy-5'methylphenyl)benzotriazole* in conjunction with *di-tert-butyl-p-cresol*). The Board's decision in *Ex Parte Yamamoto* reaffirmed the general rule that an obviousness rejection must be based in fact **(i.e., evidence or explanation regarding any teaching, suggestion, or motivation in or among the cited art),** not in the examiner's mere conjecture or speculation that "one of ordinary skill would have found the claimed invention obvious to try."

Here, notwithstanding Claims 29-40 being herein amended to better encompass the present invention, the Applicant further respectfully traverses the Examiner's basis for rejection of these claims, under 35 U.S.C. §103(a). The Applicant respectfully submits that the Examiner has not sustained her burden of establishing a prima facie case of obviousness. The Applicant respectfully submits that the Examiner's refusal to consider the relevant human factors, discussed, supra, has resulted in the Examiner's rejections, under 35 U.S.C. §103(a), and that such refusal arises from hindsight reconstruction, especially with respect to the Kensington invention and Sunabe.

On point with respect to the nature of the Examiner's rejections, is the case of *In re Gartside and Norton*, recently decided February 15, 2000, where the CAFC applied the well-established rules of *Dembiczak* (50 USPQ2d at 1616), *Graham* (148 USPQ at 467), *Pro-Mold* (37 USPQ2d 1626), and *Rouffet* (47 USPQ2d at 1456): "the ultimate determination ... whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. ... the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. ... suggestion may come from ... the teachings of the references themselves, and ... from the nature of the problem to be solved." Evidence of suggestion may be a "trend in the art" towards solving the problem by one of ordinary skill in the proposed manner.

More particularly, *Dembiczak,* in Section II of that opinion, states, "Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom of the field. .... Close adherence to this methodology is especially important ... where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.' ... 'must specifically identify the reasons one of ordinary skill in the art would have been motivated to select the references and combine them' ... 'objective teaching [leading to the combination]' ... conclusion of obviousness was error 'when it did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination' .... Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability — the essence of hindsight. ... the showing [of actual evidence] must be clear and particular. ... 'examiner's [mere] conclusory statement ... unaccompanied by evidence or reasoning ... is entirely inadequate to support the rejection.'"

Even more specifically on point are the rules of *In re Piasecki* (223 USPQ 785, 787-

788) and *In re Lalu* (223 USPQ 1257, 1258) reiterated by *In re Fine* (5 USPQ2d at 1598), decided January 28, 1988, which states, **"Fine says the PTO has not established a prima facie case of obviousness. ... the references applied by the ... Examiner were improperly combined, using hindsight reconstruction, without evidence to support the combination .... He argues that ... the claims were rejected because the PTO thought it would have been 'obvious to try' the claimed invention, an unacceptable basis for rejection. We agree. The PTO has the burden ... to establish a prima facie case of obviousness. .... It can satisfy this burden only by a showing some objective teaching in the prior art or that the knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."**

Applying the foregoing rules against hindsight reconstruction to the instant case, the Examiner, in this and prior Office Actions, merely makes a blanket conclusion that one of ordinary skill in the art (and even "one of less than ordinary skill in the art") would have done what the Applicant did to solve the problem:

> It would have been obvious to one of ordinary skill in the art to modify the device taught by '718 Pat., to include stickers to attach to either: housing portions, extension cords, or peripheral devices or any combination/subcombination thereof, because consistent with the scope of the '718 Pat. invention, color indicia/(stickers) attached throughout the entire system (power strip, extension cord, peripheral device) *enables the various outlets provided to be* ***easily identified*** *and thus insures that each component connected thereto will be connected to an outlet specifically designed for the particular electronic characteristic for the component.* ('718 Pat., at 4:14-18).
>
> ... it is obvious to one of ordinary skill in the art at the time of the invention to modify '718 Pat. with the teachings of Barna, because Barna objective was to "provide a cable connecting system that secure a color coded alignment strip [] in a manner that prevents inadvertent removal of the alignment strip." (Barna, at 3: 19-22).
>
> .... It would have been obvious to one of ordinary skill in the art to modify the teachings of '718 Pat., and Barna, with the teachings of Sunabe because as Sunabe discloses a visual pattern system reduces errors in wiring, and also makes tracing easier, and provides codes [which] stand out from conventional wiring diagrams, by "providing two indicia in a single component." ([*Id.*,] at 3:25-26).

However, the Examiner does concede that the '718 Patent does not disclose *"stickers," "a set," "that a sticker is to be attached to a peripheral device," "that the colored stickers are distinct from other stickers in the set," "whereby said plurality of colored stickers provide an after-market means integrally provided for facilitating ascertainment of correct power distribution to said peripheral device,"* and *"an electrical power strip apparatus in kit-form."* The '718

Patent merely describes red stripes and rings applied to a power line conditioner. The Examiner also concedes that Barna does not disclose *"stickers or stickers having indicia on them."* The Examiner summarily concludes that such was obvious to try. Neither evidence nor reasoning can be found in this Office Action nor even in the previous Office Actions to show teaching, motivation, nor suggestion in favor of combining these cited art references.

Further, the Examiner's reasoning involves the use of the Applicant's claimed invention as "a template for piecing together" bits from the cited references. The Examiner states that the '718 Patent teaches "... a plurality of colored indicia provided for selective attachment to an electrical cord and to a peripheral device utilizing said power strip apparatus, each of said set being selected such that its color matches the colored portion to be utilized for powering peripheral device, each colored indicia of said set of colored indicia being a color distinct from any other colored indicia." However, the Examiner concedes that the '718 Patent does not teach *"stickers," "a set," "that a sticker is to be attached to a peripheral device," "that the colored stickers are distinct from other stickers in the set," "whereby said plurality of colored stickers provide an after-market means integrally provided for facilitating ascertainment of correct power distribution to said peripheral device,"* and *"an electrical power strip apparatus in kit-form."*

The Examiner has stated, in previous Office Actions, that Barna teaches "... a color coded alignment strip (40), ... attached to a device, which corresponds to color coded cables (52a, 52b, and 52c). The color coded alignment strip (which extends entirely around the electrical connection ports) is positioned and aligned in a recessed area (30) such that the colors of the alignment strip match the color of the cables. ... the color of the power cord connection cable (52c) corresponds with the color (44c) of the a section of the color coded alignment strip. (5:16-19). ... color-coding with tags (68a)." In this Office Action, the Examiner has taken Official Notice that "the sticker and tag solve the same problem of properly identifying proper connection via a color code system." Barna merely teaches the use of a hardwired color-coded template applied to a **credit card terminal**, not a flexible color-coding system applied to the instant plug strip apparatus. Likewise, the Examiner does not state that Barna teaches, motivates, or suggests the Applicant's combined use of integral and retrofitted solid color-coding and peripheral device indicia with a **plug strip apparatus**, intermediate cord(s), and peripheral devices.

The Examiner states that Sunabe teaches "... a set of wire markers (22), a set of outlet box markers (23) with the markers carried on the carrier with each marker of each set being separable peelable from the carrier. ([*Id.*,] at 3:50-53). The markers are numbered sequentially and are color coded red, black, and blue." Sunabe merely teaches *limited color-coding* (i.e., black, red, blue, and white) applied to **wall outlets and circuit breaker boxes**. However, the Examiner does not show that Sunabe teaches, motivates, or suggests the Applicant's combined use of integral and retrofitted solid color-coding and peripheral device indicia with a **plug strip apparatus**, intermediate cord(s), and peripheral devices.

The Examiner thereby makes another blanket conclusion: "It would have been obvious to one of ordinary skill in the art to modify the teachings of '718 Pat., and Barna, with the teachings of Sunabe because as Sunabe discloses a visual pattern system reduces errors in wiring, and also makes tracing easier, and provides codes [which] stand out from conventional wiring diagrams, by "providing two indicia in a single component." Thus, not only does the Examiner use the Applicant's teachings to "piece-together" the cited references, but the Examiner has inadvertently engaged in the practice of basing her rejection on the prohibited "obvious to try" assertion.

Although Kensington teaches *thin colored rings disposed at a notable radius away from the outlets*, the Examiner has not demonstrated that the Kensington disclosure motivates or suggests the use of ***solid color-coding*** on a **plug strip**. The Examiner merely used the Applicant's disclosure to connect the cited references without any objective indicia of motivation nor suggestion to combine those references to blanketly conclude that the present invention was "obvious to try." Further, neither the problem of optimizing visual identification nor any trend toward a solution along the line of the Applicant's invention is alluded in the cited art. Thus, the '718 Patent, even in view of Barna, and even in further view of Kensington and Sunabe, does not teach, motivate, nor suggest the Applicant's combined use of integral nor retrofitted solid color-coding and peripheral device indicia with a plug strip apparatus, intermediate cord(s), and peripheral devices. Therefore, the Applicant respectfully submits that the Examiner has inadvertently fallen victim to the "insidious hindsight syndrome" arising from a misunderstanding of the current case law which sets forth the specific criteria for establishing prima facie obviousness. Therefore, the Applicant respectfully requests that the Examiner's grounds for rejection on this basis be withdrawn as to Claims 29-40.

Rejection under 35 U.S.C. §103(a) is Improper under 37 C.F.R. §1.104(d)(2) as to Claims 29-40:

T he Examiner has also exercised Official Notice, in a prior Office Action, to combine elements where no teaching, motivation, nor suggestion for such combination exists in the cited art. Reiterating, the Examiner has taken Official Notice that "the sticker and tag solve the same problem of properly identifying proper connection via a color code system." However, Barna merely teaches the use of a hardwired color-coded template applied to a **credit card terminal**, not the instant flexible color-coding system applied to the instant **plug strip apparatus**. Further, the Examiner does not show that the '718 Patent teaches motivates, or suggests the Applicant's synergistically combined use of integral and retrofitted solid color-coding and peripheral device indicia with a plug strip apparatus, intermediate cord(s), and peripheral devices. In paragraph 30 of the Office Action dated March 27, 2001, with reference to Barna's credit card terminal, the Examiner stated, "Official notice is taken that the sticker and tag solve the same problem of properly identifying proper connection via a color code system. Hence, both function to ensure easy visual identification."

Consequently, the Applicant respectfully submits that rejection of Claims 29-40 is improper and that Official Notice has been improperly taken under 37 C.F.R. §1.104(d)(2), which states:

> When a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the ***data shall be as specific as possible***, and the ***reference must be supported***, when called for by the applicant, by ***the affidavit of such employee***, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons.

Therefore, the Applicant hereby requests that an affidavit, under 37 C.F.R. §1.104(d)(2), be made by the Examiner and supplied to the Applicant as to ***facts and/or data*** to support her position that ***a solid color coded power strip apparatus*** or ***a solid color-coding kit for a power strip apparatus*** would be unpatentable over Barna under 35 U.S.C. §103(a).

Rejection under 35 U.S.C. §103(a) is Improper under 35 U.S.C. §103(c) as to Claims 29-40:

The Applicant hereby further respectfully traverses the Examiner's grounds for rejection of Claims 29-40 on the basis that the references have been improperly combined under the provisions of 35 U.S.C.§103(c), which states:

> (c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

In addition, MPEP §706.02(1)(2) states, in relevant part:

> ... ***entirely or wholly owned by the same person, persons, or organization at the time the claimed invention was made.*** If the person, persons, or organization owned less than 100 percent of the subject matter which would otherwise be prior art to the claimed invention, ***or less than 100 percent of the claimed invention, then common ownership would not exist. Common ownership requires that the person, persons, or organization own 100 percent of the subject matter and 100 percent of the claimed invention.***
>
> The requirement for common ownership at the time the claimed invention was made is ***intended to preclude obtaining ownership of subject matter after the claimed invention was made in order to disqualify that subject matter as prior art against the claimed invention.***
>
> ... Actual ownership of the subject matter and the claimed invention by the same individual or organization or a legal obligation to assign both the subject matter and the claimed invention to the same individual or organization ***must be in existence at the time the claimed invention was made in order for the subject matter to be disqualified as prior art.***
>
> ... Actual ownership of the subject matter and the claimed invention by the same individual or organization ***or a legal obligation to assign both the subject matter and the claimed invention to the same individual or organization must be in existence at the time the claimed invention was made*** in order for the subject matter to be disqualified as prior art. ...

Here, **the subject matter of the '718 Patent to Lee was owned by Monster Cable International, Ltd., a wholly-owned subsidiary of Monster Cable Products, Inc., and the claimed invention (the provisional application filed January 2, 1998) was subject to an obligation of assignment to Monster Cable Products, Inc. at the time the present invention was made** (See corporate documents contained in herewith submitted Exhibit D).

Further, assignment of an application claiming the benefits of a provisional application is provided by MPEP §306.01 which states, in relevant part:

> If an application which claims the earlier filing date of a provisional application under 25 U.S.C. 119(e) includes only subject matter which formed a part of the provisional application, **an assignment recorded against the provisional application will be effective in the later application,** similar to the practice with respect to continuations and divisions filed under 35 U.S.C. 120. If an application claiming the earlier filing date of a provisional application includes subject matter that is not common with subject matter of the provisional

application, new assignment papers must be submitted in the later application, similar to the practice with respect to continuations-in-part filed under 35 U.S.C. 120.

Here, the obligation of assignment of **January 2, 1998,** with respect to the present invention did, in fact, come into fruition and was duly assigned on **June 3, 1998**. The instant continuation application, filed **December 12, 2000,** claims priority from the nonprovisional application, filed **December 28, 1998,** which contains the same specification and drawings as appearing in the provisional application, filed **January 2, 1998**. Only claims were added in the filing of the nonprovisional application. A photocopy of the Assignment documents, signed by the Applicant, are herewith submitted in Exhibit C for the Examiner's convenience. Thus, ***the assignment recorded against the provisional application is effective in both the nonprovisional application filed December 28, 1998 and its continuation application thereof*** (i.e., the present application).

In addition, ***the subject matter of the Kensington disclosure, which was commonly under obligation of assignment to Monster Cable Products, Inc., at the time the present invention was made, had been misappropriated to Kensington Microware, Ltd. by a former employee and worker-for-hire, Engineer David Pitcher.*** As discussed, supra, a copy of David Pitcher's Agreement to assign the invention to Monster Cable Products, Inc. is contained in Exhibit C.

Thus, the Applicant respectfully resubmits that **both the '718 Patent to Lee and the Kensington disclosure have been improperly combined, under 35 U.S.C.§103(c),** with U.S. Patent No. 5,775,935 to Barna and U.S. Patent No. 5,366,250 to Sunabe, and that **the primary reference, the '718 Patent to Lee as well as the Kensington disclosure, therefore, should be disqualified as prior art.** Therefore, the Applicant respectfully requests that all of the Examiner's grounds for rejection, under 35 U.S.C. §103, on the foregoing bases be withdrawn as to Claims 29-40.

CONCLUSION

Accordingly, Claims 29-40 are herein amended to better encompass the full scope and breadth of the present invention, notwithstanding the Applicant's belief that the claims would have been allowable as originally filed. Accordingly, the Applicant respectfully reasserts that no claims have been narrowed within the meaning of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* (Fed.Cir. November 29, 2000). Therefore, reconsideration of the present application in light of the foregoing amendment and these remarks is respectfully requested. Herein amended Claims 29-40 are believed to be fully supported by the specification, and are believed to be in allowable form, or alternatively, in better form for appeal. Thus, favorable consideration of the present continuation application is respectfully requested in light of the foregoing amendment and these remarks. The Examiner is hereby cordially invited to telephone the undersigned for any reason which would advance the pending claims to allowance.

Respectfully submitted,

May Lin DeHaan

May Lin DeHaan
Reg. No. 42,472

MLD:sgs
June 26, 2001
LARIVIERE, GRUBMAN & PAYNE, LLP
Post Office Box 3140
Monterey, CA 93942
(831) 649-8800

MARKED-UP VERSION OF THE CLAIMS

In the Claims:

Kindly amend Claims 29-40, as follows.

29. **(Amended)** An AC electrical power strip apparatus having a plurality of color coded indicia for a plurality of electrical outlets thereon for associating a plurality of peripheral devices coupled thereto, said apparatus comprising:

an input power cord member;

an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets; and

a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing also having a plurality of discrete, solid colored areas, each said discrete solid colored area being disposed [near certain ones] on and surrounding each outlet of said plurality of outlets for associating said [certain ones] each outlet of said plurality of outlets with a particular color, and for associating [certain ones] each outlet of said plurality of outlets with [certain ones] each peripheral device of said plurality of peripheral devices.

30. **(Amended)** [The] An AC electrical power strip apparatus, as recited in Claim 29, further comprising:

a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to each peripheral device of said plurality of peripheral devices utilizing said power strip apparatus,

each sticker of said set being selected such that its color matches the solid colored area to be utilized for powering said each peripheral device,

each said set of solid colored stickers being a color distinct from any other said set of solid colored stickers.

31. **(Amended)** [The] An AC electrical power strip apparatus, as recited in Claim 29, further comprising:

a plurality of solid colored electrical extension cords for selective attachment to said power strip apparatus,

each colored electrical extension cord of said plurality of solid colored electrical extension cords being a color distinct from any other solid colored electrical extension cord in said plurality of solid colored electrical extension cords,

each solid colored electrical extension cord being selected such that its color matches the color of the solid colored area being utilized.

32. **(Amended)** [The] An AC electrical power strip apparatus, as recited in Claim 31, further comprising:

a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to each peripheral device of said plurality of peripheral devices utilizing said solid colored electrical extension cord,

each solid colored sticker of said set being selected such that its color matches the color of the solid colored area and the color of a solid colored electrical extension cord being utilized,

each said set of solid colored stickers being a color distinct from any other said set of solid colored stickers.

33. **(Amended)** An AC electrical power strip apparatus having a plurality of electrical outlets, said apparatus comprising:

an input power cord member;

an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets; and

a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing also having a plurality of discrete areas for receiving a plurality of solid colored stickers and a plurality of color coded indicia disposed [near certain ones] proximately to each outlet

of said plurality of outlets for retrofitting said plurality of outlets, said plurality of solid colored stickers and said plurality of color coded indicia for associating [certain ones] each outlet of said plurality of outlets with a particular color, and for associating [certain ones] each outlet of said plurality of outlets with [certain ones] each device of said plurality of peripheral devices.

34. **(Amended)** [The] An AC electrical power strip apparatus, as recited in Claim 33, further comprising:

a plurality of sets of a plurality of solid colored stickers for selective attachment to an interconnecting electrical cord and to each said peripheral device utilizing said power strip apparatus,

each solid colored sticker of said plurality of solid colored stickers of each said set being selected such that its color matches the color of the solid colored sticker provided on the area,

each said set of solid colored stickers being a color distinct from any other said set of solid colored stickers.

35. **(Amended)** [The] An AC electrical power strip apparatus, as recited in Claim 33, further comprising:

a plurality of solid colored electrical extension cords for selective attachment to said power strip apparatus,

each solid colored electrical extension cord of said plurality of solid colored electrical extension cords being a color distinct from any other solid colored electrical extension cord in said plurality of solid colored electrical extension cords,

each solid colored electrical extension cord being selected such that its color matches the color of the solid colored sticker provided on the area being utilized.

36. **(Amended)** [The] An AC electrical power strip apparatus, as recited in Claim 35, further comprising:

a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to each said peripheral device utilizing said solid colored electrical extension cord,

each solid colored sticker of said set being selected such that its color matches the color of the solid colored sticker and the color of the solid colored electrical extension cord being utilized,

each said set of solid colored stickers being a color distinct from any other said set of solid colored stickers.

37. **(Amended)** An [kit having an] AC electrical power strip apparatus, as recited in Claim 29, further comprising [the apparatus having a plurality of color coded indicia for a plurality of electrical outlets thereon for associating a plurality of peripheral devices coupled thereto,] a kit, the kit comprising:

[an input power cord member;

an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets; and

a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing also having a plurality of discrete, solid colored areas disposed near certain ones of said plurality of outlets for associating said certain ones of said plurality of outlets with a particular color, and for associating certain ones of said plurality of outlets with certain ones of said plurality of peripheral devices; and]

a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to said each peripheral device utilizing said power strip apparatus.

38. **(Amended)** A method of providing AC power to a plurality of peripheral devices by color-coding, said method comprising [the steps of]:

(a) providing an AC electrical power strip apparatus having a plurality of color coded indicia for a plurality of electrical outlets thereon for associating a plurality of peripheral devices coupled thereto, said apparatus comprising:

an input power cord member,

an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets, and

a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing also having a plurality of discrete, solid colored areas disposed [near certain ones] <u>on and surrounding each outlet</u> of said plurality of outlets for associating [said certain ones] <u>each outlet</u> of said plurality of outlets with a particular color, and for associating [certain ones] <u>each outlet</u> of said plurality of outlets with [certain ones] <u>each device</u> of said plurality of peripheral devices;

(b) providing a plurality of sets of solid colored stickers for selective attachment to an interconnecting electrical cord and to said each peripheral device utilizing said power strip apparatus;

(c) providing an indicia element on each said solid colored area with identification information of each said peripheral device to be plugged to a solid colored area;

(d) tagging each said peripheral device with one of said provided solid colored stickers;

(e) tagging said interconnecting electrical cord with one of said provided solid colored stickers; and

(f) attaching the tagged interconnecting electrical cord to the corresponding solid colored area on the AC power strip.

39. **(Amended)** An [kit having an] AC electrical power strip apparatus, as recited in Claim 33, further comprising a kit, the kit comprising:

[an input power cord member;

an electrical distribution main electrically coupled to said input power cord member and to said plurality of electrical outlets;

a housing member for housing said distribution main and said outlets, and for securing said power cord member to said main, said housing having a plurality of discrete areas disposed near certain ones of said plurality of electrical outlets and having a plurality of color coded indicia thereon for associating certain ones of said plurality of outlets with a particular color and a particular indicia, and for associating certain ones of said plurality of outlets with certain ones of said plurality of peripheral devices coupled thereto; and]

a plurality of sets of at least three like solid colored stickers, one of said set for selective attachment to said each area, to an interconnecting electrical cord, and to a peripheral device utilizing said power strip apparatus.

40. **(Amended)** [The kit] An apparatus, as recited in Claim 39, further comprising:

a plurality of solid colored electrical extension cords for selective attachment to said power strip apparatus,

each solid colored electrical extension cord being selected such that its color matches the color of the area being utilized,

each solid colored electrical extension cord of said plurality of solid colored electrical extension cords being a color distinct from any other solid colored electrical extension cord in said plurality of solid colored electrical extension cords.

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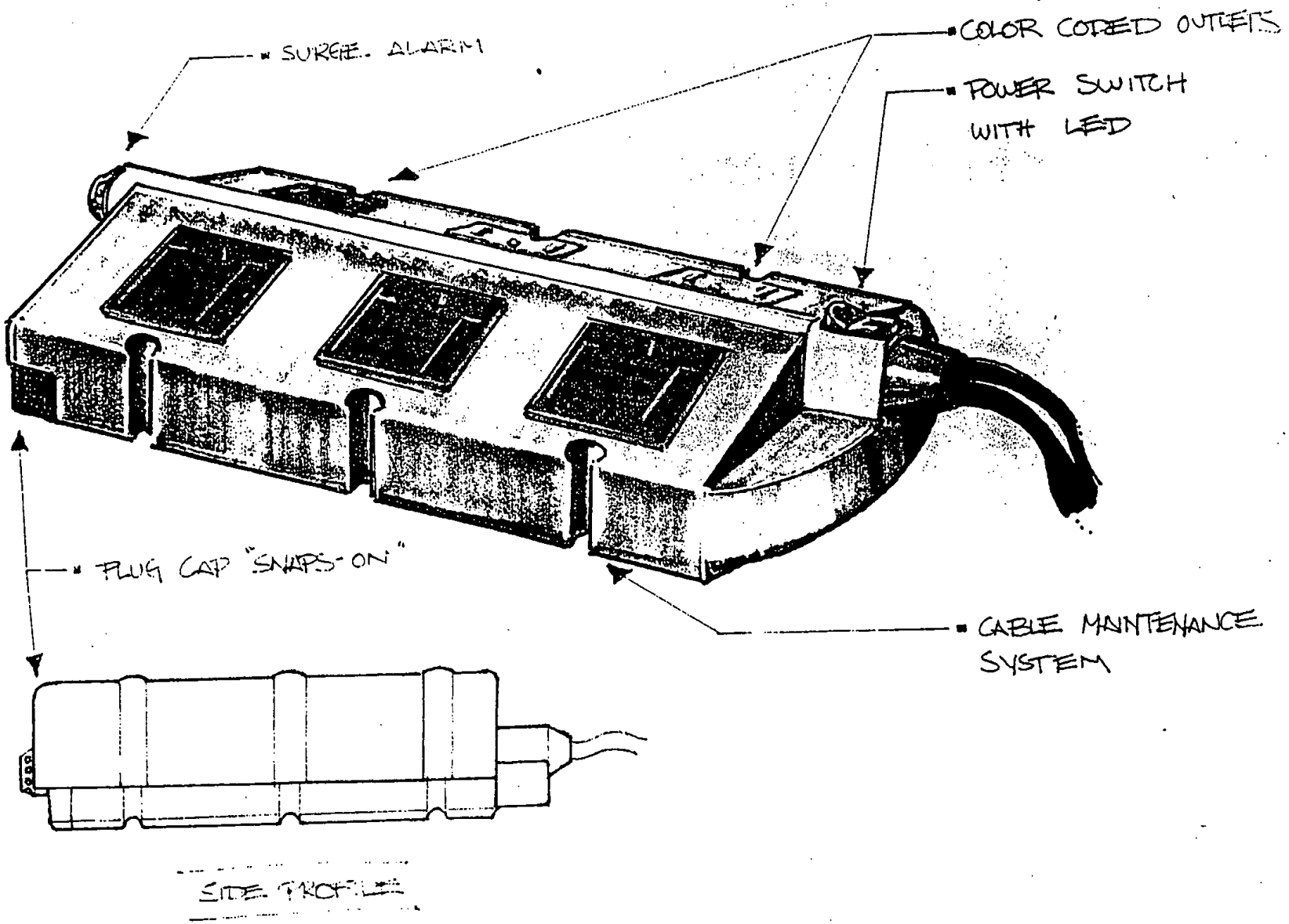
EXHIBIT A - ANTEDATING EVIDENCE

1. Monster Cable Products, Inc.'s proprietary laboratory drawing (July 28, 1994) (1 page).

2. Kensington Microware, Ltd.'s product review publication (September 1997) (1 page).



MONSTER POWER PLATE

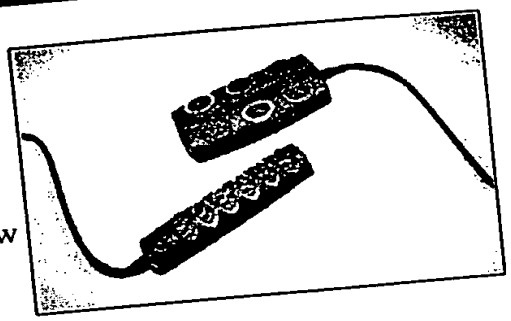
7.28.94

MacUser / September 1997

Reviews

Kensington SmartSockets Strip Model and Adapter Model

♦♦♦♦



A sexy surge protector may seem an impossibility, but two new Kensington SmartSockets come close to making it a reality. The Strip Model is merely a straightforward power strip -- albeit an exceptionally well-designed one; the Adapter Model, on the other hand, can protect against nearly three times the surge energy and has extrawide outlet spacing that accommodates up to six AC adapters. Each model also protects one telephone, modem, or fax-machine line. The flashy design is not just for looks, either: Included are six pairs of labels that match the colored rings around each socket. Put one label on each peripheral and a matching one on its power cord, and you'll never unplug the wrong device again. / **LaMont Ridgell**

List all MacUser reviews of Surge Protectors.

Kensington SmartSockets Strip Model and Adapter Model, $19 and $50 (estimated street).
Company: Kensington, San Mateo, CA; 800-535-4242 or 415-572-2700.

From **MacUser** magazine, now incorporated into Macworld.

EXHIBIT B - PUBLICATIONS

1. Patricia Valdez and Albert Mehrabian, Effects of Color on Emotions, Journal of Experimental Psychology: General, 123, pp. 394-409 (1994) (16 pages).

2. Lyle E. Bourne and Bruce R. Ekstrand, Psychology: Its Principles and Meanings 3rd Ed., pp. 24-25, Holt, Rinehart and Winston (1979) (2 pages).

Journal of Experimental Psychology: General
1994, Vol. 123, No. 4, 394-409

0096-3445/94/$3.00

Effects of Color on Emotions

Patricia Valdez and Albert Mehrabian

Emotional reactions to color hue, saturation, and brightness (Munsell color system and color chips) were investigated using the Pleasure–Arousal–Dominance emotion model. Saturation (S) and brightness (B) evidenced strong and consistent effects on emotions. Regression equations for standardized variables were: Pleasure = .69B + .22S, Arousal = −.31B + .60S, Dominance = −.76B + .32S. Brightness effects were nearly the same for chromatic and achromatic colors. Blue, blue–green, green, red–purple, purple, and purple–blue were the most pleasant hues, whereas yellow and green–yellow were the least pleasant. Green–yellow, blue–green, and green were the most arousing, whereas purple–blue and yellow–red were the least arousing. Green–yellow induced greater dominance than red–purple.

There is a large body of literature on the psychology of color. The research spans more than a century, covers a wide range of interests, and exhibits varying degrees of methodological rigor. The topics of investigation include: (a) color reactions as functions of personality and psychopathology, (b) physiological reactions to color, (c) color preferences, (d) color effects on emotions, (e) color effects on behavior, and (f) reactions to color concepts.

Methodological and Conceptual Issues

Color stimuli are characterized completely in terms of hue (i.e., wavelength), brightness or value (i.e., black-to-white quality) and saturation or chroma (i.e., purity or vividness, with lower saturation colors containing more grey). The following, more precise, definition of saturation is helpful: "Munsell chroma is often considered to be the approximate counterpart of perceived saturation. The Munsell chroma of a color sample is defined as the difference from a grey of the same lightness" (Agoston, 1979, p. 87).

As Gelineau (1981) noted, much of the research on color and affect is weak on several grounds. The methodological problems can be grouped in two broad categories. The first group includes studies that have failed to provide adequate specifications or controls of color stimuli (e.g., absence of controls for saturation and brightness while investigating effects of hue) and use of nonstandard or unspecified lighting conditions. The second group of studies failed to use sufficiently reliable, valid, or comprehensive measures of emotional responses to color stimuli. Thus, despite the substantial body of experimental work in this area, results have failed to provide a thorough and general characterization of relationships between color and affect.

Patricia Valdez and Albert Mehrabian, Department of Psychology, University of California, Los Angeles.

The present article is based on a dissertation written by Patricia Valdez and supervised by Albert Mehrabian.

Correspondence concerning this article should be addressed to Albert Mehrabian, Department of Psychology, 405 Hilgard Avenue, Los Angeles, California 90024.

The following review of some of the best studies in the field includes comments, when appropriate, on specific methodological problems associated with each study. It is useful, nevertheless, to provide a broad overview of the types of methodological problems encountered in this literature. (Specific studies exhibiting each type of methodological problem were reviewed by Valdez, 1993.)

The first group of methodological problems relates to color stimuli. Many studies have simply reported vague verbal descriptions of the color samples displayed to subjects. Other researchers selected color stimuli that they *felt* best represented particular hues, such as red or green. Also, a number of studies did not use actual color stimuli but instead elicited subjects' responses to verbal labels of color (e.g., "red" or "black").

Other studies have failed to relate the color samples used to a standardized system of color notation (e.g., Munsell). Some of these specified one aspect (usually hue) but failed to specify the two additional characteristics of color necessary for a complete description of the color samples used. Other researchers who have provided an exact specification of each color sample (e.g., a Munsell blue with saturation value of 8 and brightness of 5) have tested differences in reactions to color samples that confounded hue, saturation, and brightness effects.

The second group of methodological problems relates to responses to color (i.e., the dependent measures) and is illustrated by studies that have used adjective checklists with dubious reliability and validity to assess emotional reactions to color. An even more problematic technique involved having subjects match verbal emotion labels to different color samples. Single-emotion terms that refer vaguely to discrete emotional states (e.g., "exciting" or "comfortable") have doubtful reliability for assessing emotional reactions. Furthermore, in the absence of a theoretical system that interrelates discrete emotional states, single-emotion terms do not provide a basis for characterizing similarities and differences in emotional reactions to various colors.

Other studies have used extremely rudimentary measurement techniques by, for instance, requesting that subjects

rank the color samples on pleasantness. The single term "pleasantness" is apt to elicit different sets of associations from different subjects. Some people, for instance, may associate pleasantness with comfort and relaxation (i.e., pleasure plus low arousal), whereas others may associate it with excitement and elation (i.e., pleasure plus high arousal). Thus, whether used for characterizing color samples or for comparing (ranking) colors, single terms are likely to have doubtful reliability and validity in assessing emotions.

It also is difficult to abstract general patterns of findings from the color–emotion literature, because experimenters have used highly limited assessments of reactions to color (e.g., feelings of aggression) or have used different and nonoverlapping dimensions to assess emotional reactions to color (e.g., "happy" or "showy" in one study, as compared with "arousal" or "preference" in others). A comprehensive system for the description of emotions is needed to compare and contrast findings from studies that have used these nonoverlapping dependent measures.

The Pleasure–Arousal–Dominance (PAD) Emotion Model

General characterization of the emotional effects of color requires a framework for the general description of emotional states. The rationale for the PAD emotion model, used in the present series of studies, is reviewed here, because we use the model below to describe and interrelate findings that used a variety of verbal-report, physiological, and behavioral measures bearing on emotions.

Osgood, Suci, and Tannenbaum (1957) identified Evaluation, Activity, and Potency as three basic dimensions of meaning. These factors, originally extracted from reactions to verbal concepts, were replicated in studies of reactions to highly diverse stimuli, such as sonar signals and paintings (Osgood et al., 1957; Snider & Osgood, 1969). Mehrabian (1972) noted that the same or similar factors were obtained also from factor-analytic studies of social cues, including postures, body positions, facial and vocal expressions, gestures, and movements. The considerable generality of the semantic differential factors suggests that they represent lowest common denominators of cognition and are thus associated strongly with affective responses. These low-level cognitive–affective responses in turn form the basis for metaphorical comparisons of objects and events in distinct areas of human experience (e.g., Osgood, 1969).

Mehrabian and Russell (1974) suggested that the dimensions of pleasure–displeasure (the emotional counterpart of Evaluation), arousal–nonarousal (the emotional correlate of stimulus Activity), and dominance–submissiveness (the converse of stimulus Potency) could provide a general description of emotions. Their preliminary measures of pleasure, arousal, and dominance accounted for 27, 23, and 14 percent of variance, respectively, of emotional reactions to highly varied everyday situations (Mehrabian & Russell, 1974, Ch. 2).

Russell and Mehrabian (1977) also showed that most of the reliable variance in 42 verbal-report scales could be accounted for in terms of the PAD (i.e., pleasure, arousal, and dominance) emotion scales. Shaver, Schwartz, Kirson, & O'Connor (1987) used multidimensional analyses to study 135 emotion terms, and their results corroborated the PAD Emotion Model. Although they obtained two-dimensional (Evaluation and Intensity) and three-dimensional (Evaluation, Potency, and Activity) solutions, they found the three-dimensional representation of affect to be more informative than the two-dimensional one (Shaver et al., 1987, p. 1071).

The generality of the PAD Emotion Model is illustrated by dichotomizing each of the dimensions: pleasure (+P) versus displeasure (−P), arousal (+A) versus non-arousal (−A), and dominance (+D) versus submissiveness (−D). The resulting 2P × 2A × 2D emotion categories are illustrated by the following groups, which are derived from ratings of 240 emotional states on the PAD scales (Mehrabian, 1978; Russell & Mehrabian, 1977):

+P+A+D:	admired, bold, creative, powerful, vigorous
+P+A−D:	amazed, awed, fascinated, impressed, infatuated
+P−A+D:	comfortable, leisurely, relaxed, satisfied, unperturbed
+P−A−D:	consoled, docile, protected, sleepy, tranquilized
−P+A+D:	antagonistic, belligerent, cruel, hateful, hostile
−P+A−D:	bewildered, distressed, humiliated, in pain, upset
−P−A+D:	disdainful, indifferent, selfish-uninterested, uncaring, unconcerned
−P−A−D:	bored, depressed, dull, lonely, sad.

Sample average ratings on pleasure, arousal, and dominance (scored from −1 to +1), respectively, were as follows for some of the emotions in the preceding groups: bold (.44, .61, .66), impressed (.41, .30, −.32), comfortable (.85, −.19, .13), protected (.60, −.22, −.42), hostile (−.42, .53, .30), distressed (−.61, .28, −.36), uncaring (−.32, −.12, .28), bored (−.65, −.62, −.33).

The preceding review of the PAD Emotion Model illustrates the model's considerable generality and potential versatility as a descriptive system for emotions. Accordingly, in the present study we used improved versions of the PAD emotion scales, provided by Mehrabian (1978), to assess emotional reactions to color.

Color Reactions as Functions of Personality and Psychopathology

Despite considerable interest in this area, it is difficult to draw any reliable conclusions from the available work. Much of the relevant research is methodologically weak and usually has relied on the Rorschach (1942) and the Luescher Color Test (Luescher & Scott, 1969). Both of the latter measures have problems with respect to validity (e.g., note

Cerbus & Nichols, 1963, and Frank, 1976, for reviews of the literature).

Physiological Reactions to Color

These studies have been motivated largely by the hypothesis that long-wavelength colors (e.g., red and yellow) are more arousing than short-wavelength colors (e.g., blue and green). Experimental studies that have used physiological measures (e.g., galvanic skin response [GSR], electroencephalograph) generally have shown that red and yellow were indeed more arousing than blue and green (e.g., Gerard, 1958; Jacobs & Hustmyer, 1974; Wilson, 1966). For example, Wilson's (1966) subjects were exposed to five red and five green slides, in alternating order. Results with two measures supported the hypothesis that red is more arousing than green, with the effect being particularly apparent in the GSR data. It should be noted, however, that neither color brightness nor saturation were controlled in the study. More generally, none of the studies dealing with physiological reactions to color have investigated these reactions in relation to color brightness and saturation levels.

Color Preferences

Much of the earlier work dealing with color preferences has failed to control for the three dimensions of color—hue, saturation, brightness—and thus is methodologically flawed (e.g., Birren, 1952; Dashiell, 1917; Eysenck, 1941). Guilford (1934) and Guilford and Smith (1959), however, conducted some of the most systematic work in this area. Their studies yielded the following rank-ordering of hues, from most to least preferred: blue, green, purple, violet, red, orange, yellow. Also, Guilford and Smith (1959) found that brighter and more saturated colors elicited greater pleasure, with the relationships tending to be curvilinear.

Color Effects on Emotions

Experimenters used a variety of affect inventories and semantic measures in these studies. Jacobs and Suess (1975) investigated the effects of four primary colors (red, yellow, green, blue), projected onto a large screen. Scores on Spielberger, Gorsuch, and Lushene's (1970) State–Anxiety Inventory served as the dependent variable. Brightness and saturation levels of the colors were not controlled. Nevertheless, it is noteworthy that higher state-anxiety scores were associated with red and yellow than with blue and green. Because anxiety involves displeasure and high arousal, the latter findings were consistent with results from studies of physiological reactions to color (demonstrating that red and yellow were more arousing than blue and green) and with studies of color preferences (showing that red and yellow were less pleasant than blue and green).

Wexner's (1954) study dealt more generally with associations between color samples and words that describe feelings. The color red was associated with "exciting" and "stimulating," both of which imply pleasure and high arousal. Blue was associated with "secure/comfortable" and "tender/soothing," which imply pleasure and low arousal. Orange was associated with "disturbing/distressed/upset," implying displeasure and high arousal. Black was associated with "powerful/strong/masterful," implying high dominance. Although Wexner neither used standard specifications for her color samples nor controlled for brightness or saturation, her findings were generally in accord with those already reviewed.

Profusek and Rainey (1987) investigated the effects of rooms painted in red versus Baker–Miller pink on state anxiety. As hypothesized, pink elicited less anxiety than red.

Weller and Livingston (1988) investigated the effects of the color of paper (blue, pink, white) on which text was presented to subjects. Subjects read about rape and murder incidents and reported their emotional reactions to these events. The same events were less upsetting when described on pink paper than when described on blue or white paper. Brightness and saturation were not controlled in the study, although, pink generally tends to be of high brightness and low saturation, whereas white is of high brightness and is achromatic.

Subjects in Wright and Rainwater's (1962) study rated color chips on six connotative dimensions. "Showiness" (assumed here to be indicative of the arousing quality of a color) correlated positively with saturation and brightness. Furthermore, "calmness" (assumed to be indicative of the nonarousing quality of a color) correlated negatively with brightness. Together, these results suggest that arousal is a positive correlate of color saturation and brightness.

Color Effects on Behavior

A few studies have investigated effects of colors on distinct, and unrelated, behaviors. Garrett and Brooks (1987) found that ballot color (green vs. pink) affected voting behavior. When a candidate's sex was unspecified, men showed greater preference for candidates whose positions were printed on green ballots than for those whose positions were printed on pink ballots. Female subjects showed the reverse preferences. However, ballot color had no effect when candidate sex was specified: men tended to vote for men and women tended to vote for women, regardless of ballot color.

Damhorst and Reed (1986) investigated the effects on male raters of female job applicants' dark versus light clothing and facial expressions. Men rated models who wore dark jackets as more powerful and competent than models who wore light jackets. Also, brightness of clothing was more important than facial expressions in determining judgments of potency. Finally, Frank and Gilovich (1988) investigated the effects of black versus nonblack uniforms of professional football and hockey teams on aggressive behavior. They found that black uniforms, compared with nonblack uniforms, not only were associated with greater degrees of perceived aggression but also led to higher levels of player aggressiveness.

Reactions to Color Concepts

Unlike the preceding studies, which investigated emotional and behavioral reactions to specific color stimuli, the final study noted here dealt with emotional reactions to color concepts. Adams and Osgood (1973) conducted a very comprehensive cross-cultural study in which subjects from 23 different cultures rated color concepts (e.g., the words, "blue," "green," "yellow") using the semantic-differential factors (Osgood et al., 1957).

The following effects of hue were evident across the 23 samples as a group: Blue and green were good; yellow was weak and bad; red was strong and active; black was bad, strong, and inactive; grey was bad, weak, and inactive; white was good and weak; and color was good and active. In addition, evaluation correlated strongly and positively with brightness, potency correlated positively with darkness, and activity was associated strongly with color (vs. no color).

The preceding review shows that, despite considerable interest and work in the field, studies have yet to provide a thorough and general characterization of the relationships between color and emotions. The present series of studies was designed to address various methodological and conceptual issues by (a) using a wide range of color samples, (b) referencing the color samples in terms of a standardized system (Munsell), (c) using experimental controls in investigating the effects of color hue, saturation, and brightness, (d) using standardized background and lighting conditions, and (e) using a comprehensive system of measures to assess emotional reactions.

Hypotheses

Hypotheses were abstracted from the review noted above and are summarized as follows. Pleasure is a positive correlate of brightness and saturation. Short-wavelength hues (e.g., blue, green) are more pleasant than long-wavelength hues (e.g., yellow, orange). Because, however, findings on the pleasantness of red were contradictory, red was hypothesized to be neutral on pleasantness. Long-wavelength hues are more arousing than short-wavelength hues. Arousal is a positive correlate of brightness and saturation. Dominance is a negative correlate of brightness.

Plan of the Studies

We conducted three studies and addressed the following three questions, respectively: How are emotions affected by (a) brightness and saturation of colors, (b) hue, and (c) brightness of achromatic colors? A within-subject design could not be used to investigate all of the preceding effects in a single study, because there were too many color samples requiring judgment. Accordingly, the color samples were organized into the three categories noted above, thus allowing the use of a within-subject design in the investigation of each question.

Study 1

Study 1 was designed to investigate the emotional impact of color saturation and brightness. In the study, saturation and brightness were within-subject factors, and hue, along with subjects, provided replications.

Method

Subjects

Two hundred and fifty University of California undergraduates (103 men, 147 women) served as subjects, in partial fulfillment of a course requirement.

Materials and Setting

Color samples. Color samples were taken from the Munsell Color System (available from the Macbeth division of Kollmorgen Corporation) and were on 3-in. × 5-in. (7.6-cm × 12.7-cm) cards. The following 10 hue groups from the Munsell Color System were used: red, yellow, green, blue, purple; and the five intermediate hues, yellow–red, green–yellow, blue–green, purple–blue, and red–purple.

A minimum of 7 color samples was chosen from each hue level so as to provide representative variations of brightness and saturation for each hue. As much as possible, selections within each hue represented combinations of high and low saturation with high and low brightness. In all, 76 color stimuli were selected for testing.

Display of color samples. The color stimuli were placed in the window of an 8.5-in. × 11.0-in. (22-cm × 28-cm) middle grey (Munsell value = 5) background.

Test setting. The room where subjects were tested contained no windows and was illuminated with eight fluorescent tubes (Sylvania GTE, Design 50, at 40 W) with a color temperature at 5,000° K, which approximates daylight. The choice of lighting was important, because data from Munsell color samples have been derived from the CIE data for illuminant "C," which represents daylight conditions. Angles of illumination and observation were in accordance with Commission Internationale de L'Eclairage (CIE) recommendations (Judd & Wyszecki, 1975). Color stimuli were positioned such that the top of the display page was leaning away from the subject at a 45° angle from the vertical position (to allow a 45° illumination angle). Stimuli were approximately 24 in. (61 cm) from subjects.

Measures of emotional state. We used Mehrabian's (1978) verbal-report Pleasure–displeasure, Arousal–nonarousal, and Dominance–submissiveness (PAD) scales to assess emotional responses to color.

Items of the PAD scales were in semantic-differential format. To ensure unconfounded assessment of each of the three basic emotion factors, Mehrabian (1978) selected precalibrated emotion terms for each pair. The 2 words in each pair had been rated almost equally on two emotion factors and differed greatly on the third remaining emotion factor. For instance, the 24 pairs (items) of the Pleasure–displeasure Scale were exemplified by "happy–cruel" and "affectionate–nasty." "Happy" and "cruel" had been rated almost equally with respect to connotations of arousal and dominance but differed with respect to pleasure. Similarly, "affectionate" and "nasty" fulfilled the requirement of differing on pleasure but being nearly equal on arousal and dominance.

For each pair, subjects placed a check mark in one of nine spaces separating the pair to show how they felt. The Arousal–nonarousal Scale contained 8 items exemplified by "troubled–dull" and "frustrated–sad." These pairs differed with respect to arousal but were almost equal on pleasure and dominance. The Dominance–submissiveness scale contained 15 items exemplified by "masterful–fascinated" and "violent–fearful."

Half the items in each of the Pleasure and Arousal scales and 7 of the 15 Dominance items were inverted to control for response bias. Items from all three scales were intermixed to achieve an opaque (nonobvious) assessment of the various emotions.

Procedure

Subjects were run in groups of 2. Each subject rated seven to nine different color samples within the same hue. The color samples were presented to subjects one at a time. The order of presentation of color samples was designed to avoid extreme (or minimal) changes in brightness and saturation in successive stimulus presentations. Instructions given the subjects included the following key statements: "I will present you with one color at a time. It is important that you take time to just look at the color and to think of how it makes you feel before you start to rate it. Look at the color as often and as long as you need to get an accurate rating."

Subjects responded to Mehrabian's (1978) three PAD emotion scales while viewing each color sample. When a subject completed rating a color sample, the completed emotional-response forms were removed, and a new set of blank forms was presented along with the next sample to be rated. A 5-min break followed the rating of the fourth color sample and was intended to maximize subject attentiveness in rating the remaining samples.

Results and Discussion

Reliabilities of the Dependent Measures

The 250 subjects in Study 1 each rated a minimum of seven color samples. In this way, pleasure, arousal, and dominance reactions were assessed a total of 1,896 times across color samples and subjects. Alpha internal consistency–reliability coefficients, based on these data, were .97 for the 24-item Pleasure–displeasure Scale, .85 for the 8-item Arousal–nonarousal Scale, and .90 for the 15-item Dominance–submissiveness Scale.

The preceding coefficients were high and provided evidence of satisfactory levels of internal consistency (reliability) for all three dependent measures of emotional state.

Computation of Averaged Emotional Reactions to Each Color Sample

A total of 76 color samples was used in Study 1, and each color sample was rated by approximately 25 subjects. Group reactions, rather than individual reactions, to each color sample were of primary interest from a pragmatic standpoint (i.e., with respect to possible generalizations from the present results to everyday life situations). Therefore, we computed average emotional reactions on pleasure, arousal, and dominance for each color sample across all subjects who rated that sample. These averaged values of pleasure, arousal, and dominance response to each color sample served as the dependent variables in subsequent data analyses reported below. It is important to note that basing statistical analyses of the data on such averaged (instead of individual reaction) scores to the color samples reduced the number of observations and provided more conservative estimates of statistical significance in the following analyses.

Linear Regression Analyses

We used stepwise multiple regression analyses to explore possible contributions of brightness and saturation to each of the three dependent measures of emotional state (pleasure, arousal, and dominance).

In the first of three regression analyses, averaged pleasure–displeasure responses to each of the 76 color samples constituted the dependent variable, and brightness and saturation were independent variables. Two analogous regression analyses were done for arousal–nonarousal and dominance–submissiveness. Significance was assessed at the .05 level and yielded the following three equations which are written for standardized variables to facilitate comparisons of the magnitudes of various significant effects. The numbers in parentheses to the right of each equation are multiple regression coefficients.

(1) Pleasure = .69 Brightness + .22 Saturation (.69

(2) Arousal = −.31 Brightness + .60 Saturation (.73

(3) Dominance = −.76 Brightness + .32 Saturation (.87

The multiple regression coefficients for Equations 1–3 range from .69 to .87, showing that a substantial portion of variance in emotional response to colors is explained by brightness and saturation levels of colors. This result is of considerable importance in considering possible effects of color hue on emotional response (investigated in Study 2).

The positive relationships of brightness and saturation with pleasure were hypothesized. As expected, brighter and more saturated colors were more pleasant (Equation 1). However, the differential magnitudes of these two effects had not been anticipated. The present results indicate that brightness had a considerably stronger effect than saturation on pleasure–displeasure reactions to color samples. Although this result was not anticipated, it nevertheless represents an important generalization regarding emotional responses to color.

Equation 2, for arousal, indicates that less bright and more saturated colors were more arousing. Here, the hypothesized positive relationship between saturation and arousal was correct; however, results were exactly opposite to that hypothesized for the relationship between brightness and arousal.

One reason for the incorrect hypothesized relationship between brightness and arousal is that the latter hypothesis was inferred from reports that used experimental methods that confounded brightness and saturation levels while test-

ing for the effects of brightness. In retrospect, and given the present findings, it is apparent that previous studies tended to select highly saturated and bright colors when sampling for bright colors. Reexamination of each set of Munsell color chips within each hue shows that it is easy to think of bright colors as those that also are more saturated. Thus, the greater arousal response to such highly saturated color samples (used in previous studies) was incorrectly attributed to brightness rather than to saturation. This error was possible because the contribution of saturation to arousal is almost twice the magnitude (note the coefficient of +.60 in Equation 2) of the effect of brightness on arousal (a coefficient of −.31).

Equation 3 indicates that less bright and more saturated colors induced greater feelings of dominance in viewers. The effect of brightness had been hypothesized, although no hypothesis was offered regarding the relationship between saturation of colors and feelings of dominance they induced.

An alternate description of the results in Equation 3 is that the darker (less bright) colors elicited feelings of strength or boldness. Also, more saturated colors (being more vivid, purer, or stronger) also induced feelings of dominance. The regression results in Equation 3 also indicated that the effect of brightness was considerably stronger than that of saturation in determining dominance responses to color.

Table 1
Regression Coefficients for Brightness and Saturation as Determinants of Pleasure, Arousal, and Dominance in Study 1

Dependent variable	Regression coefficients (beta weights)		
	Brightness	Saturation	Multiple regression coefficient
Pleasure			
Men & women	.69***	.22*	.69
Men only	.61***		.61
Women only	.68***	.23*	.68
Arousal			
Men & women	−.31***	.60***	.73
Men only	−.27**	.54***	.65
Women only	−.31***	.60***	.72
Dominance			
Men & women	−.76***	.32***	.87
Men only	−.72***	.21**	.79
Women only	−.73***	.36***	.86

Note. All coefficients are given for standardized variables (as beta weights) to facilitate comparisons of the relative magnitudes of effects.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Separate Linear Regressions for Men and Women

We replicated the data analyses reported in the previous section separately for male and female subjects in Study 1. The objective of such additional analyses was to ascertain possible differences in emotional responses of men and women to brightness and saturation of colors. Results of these additional regression analyses are given in Table 1. For reference, Table 1 also contains overall results for the combined sample of men and women reported in the previous section.

Examination of Table 1 shows that men and women reacted with highly similar emotional responses to brightness and saturation levels of color samples. Overall, results for women were slightly stronger, as evidenced by a larger number of significant effects (in Table 1, color saturation related significantly to pleasure for women but not for men). Also, the magnitudes of the multiple regression coefficients were greater in the equations obtained for women, compared with men.

The statistical significance of this pattern of differences for men and women was assessed as follows. In six out of six comparisons of regression coefficients, the coefficients for women were larger than those for men, and this result was significant using the cumulative binomial distribution ($p = .0156$). This result suggested that women, compared with men, were slightly more sensitive in terms of their emotional reactions to brightness and saturation levels of colors.

Previous reviews of sex differences in color preferences (Norman & Scott, 1952; Whitfield & Wiltshire, 1990) have suggested general similarities in male and female preferences for (or rankings of) various colors, while noting sex differences in the strengths of those preferences. The present findings help shed additional light on the question of possible sex differences in reactions to colors. Very simply, men and women reacted in highly similar emotional ways to brightness and saturation levels of colors, with women consistently showing a slightly stronger pattern of reactions.

Nonlinear Regression Analyses

We conducted additional regression analyses to test for possible second-order curvilinear relationships between the dependent and independent variables. First we conducted three separate regression analyses (for the dependent variables pleasure, arousal, and dominance, respectively) to test for possible significance of saturation and $(\text{saturation})^2$. None of these three regression analyses produced significance for the $(\text{saturation})^2$. Emotional reactions to different saturation levels of color are thus described best as linear effects, as given in Equations 1–3 and in Table 1.

We conducted a second set of three regression analyses to test for effects of brightness and $(\text{brightness})^2$ on pleasure, arousal, and dominance, respectively. No significant effect of $(\text{brightness})^2$ was obtained for pleasure. Thus, the linear effect of brightness on pleasure, as given in Equation 1, and the separate effects of brightness on pleasure for each sex, as given in Table 1, are sufficient.

However, the corresponding analyses for arousal and dominance yielded the .01-level significant effects given in Equations 4 and 5 that follow. These equations are written for raw (nonstandardized) arousal and dominance scores and brightness values (of which six discrete levels had been

sampled and ranged from 5 to 60) taken from the Munsell system.

$$\text{Arousal} = 8.724 - 0.62(\text{Brightness}) + .007173(\text{Brightness})^2 \quad (4)$$

$$\text{Dominance} = 28.156 - 1.66(\text{Brightness}) + .016(\text{Brightness})^2 \quad (5)$$

The multiple regression coefficient for Equation 4 is .52. Actual mean values of arousal and those predicted from Equation 4 were plotted against brightness (for each of the six brightness values sampled) and showed extremely close agreement (see Figure 1). Both the actual and predicted plots showed arousal declined steeply and monotonically with increasing brightness up to a brightness value of 43, beyond which arousal reversed and increased slightly for the highest brightness value. Generally, then, arousal decreases as colors range from dark to light, but there is a small reversal and increase in arousal for the lightest colors.

The multiple regression coefficient for Equation 5 is .88. Actual mean values of dominance and those predicted from Equation 5 were plotted against brightness (for each of the six brightness values sampled) and showed extremely close agreement (see Figure 2). Both the actual and predicted plots showed that dominance declined steeply and monotonically with increasing brightness up to a brightness value of 43, beyond which dominance leveled off. Generally, then, dominance decreases as colors range from dark to light but levels off for the lightest colors.

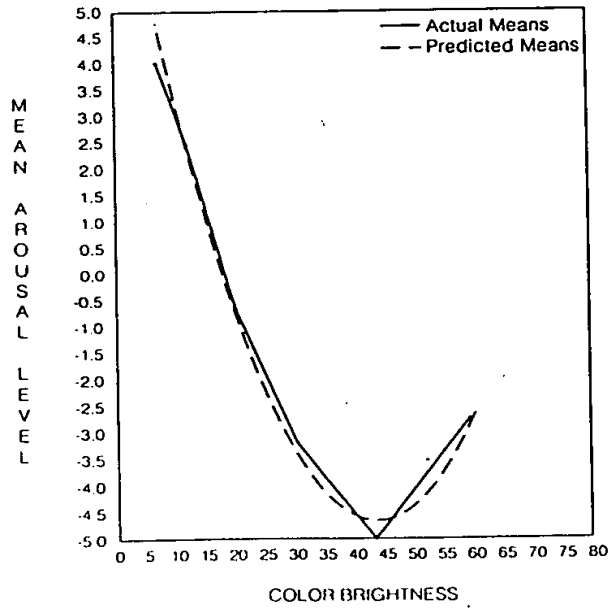


Figure 1. Actual and predicted average arousal levels as functions of color brightness in Study 1.

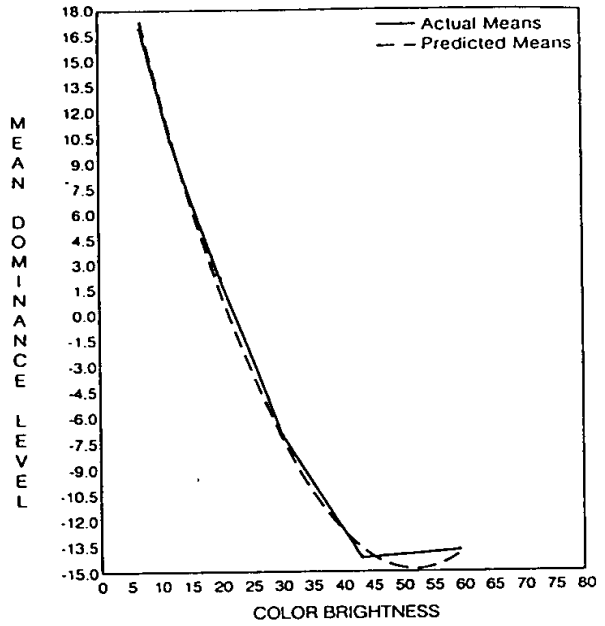


Figure 2. Actual and predicted average dominance levels as functions of color brightness in Study 1.

Study 2

In Study 2 we focused on the effects of color hue on emotions. Each subject rated 10 different hues of approximately the same brightness and saturation levels. Thus here, hue was a within-subjects factor, and brightness and saturation, along with subjects, provided replications.

Method

Subjects

Subjects were 121 University of California undergraduates (4 men, 74 women) who served in partial fulfillment of a cours requirement.

Materials and Setting

Five replication sets of 10 different hues were used. The 1 different hues in each replication were of equal brightness an saturation values. Furthermore, each of the five replications rep resented different levels of brightness and saturation.

The testing room, lighting, presentation of each color sampl framed in the window of a middle-grey background, and th emotional-state measures were identical to those used in Study

Procedure

Subjects were run 2 at a time. Each subject rated his or h emotional reactions to a succession of 10 color samples, all which were of equal brightness and saturation and varied only hue. Subjects received instructions analogous to those in Study

Each subject rated his or her reactions to the first color sample, was given a fresh set of rating sheets while he or she viewed the second color sample to rate, and so forth. To minimize subject fatigue, we gave subjects a 10-min break after they rated the fifth sample. Five more color samples were rated after the break. Order of presentation of the 10 hues varied between subjects and was designed to avoid ratings of adjacent wavelengths in succession.

Results and Discussion

Reliabilities of the Dependent Measures

The 121 subjects in Study 2 each rated 10 color samples. In this way, pleasure, arousal, and dominance reactions were assessed a total of 1,210 times across color samples and subjects. Alpha reliability coefficients obtained from these data were .97 for the Pleasure–displeasure Scale, .76 for the Arousal–nonarousal Scale, and .90 for the Dominance–submissiveness Scale. All three reliability coefficients were deemed satisfactory.

Computation of Averaged Emotional Reactions to Each Color Sample

Fifty color samples were used in Study 2, and each color sample was rated by nearly 25 subjects. As in Study 1, average pleasure, arousal, and dominance reactions to each color sample were computed across all subjects who had rated that sample. These averaged values of pleasure, arousal, and dominance response to each color sample served as the dependent variables in the data analyses reported below.

Multivariate Analysis of Variance (MANOVA)

We used MANOVA to explore possible effects of hue (10 levels), subject sex, and Hue × Sex on pleasure, arousal, and dominance reactions to colors. Significance of MANOVA effects was assessed at the .001 level. When significant multivariate effects were obtained, the corresponding significant univariate effects were interpreted.

The Hue × Sex interaction failed to achieve significance, $F(27, 240) = 0.66$, $p > .50$, thus indicating that men and women did not differ significantly in their emotional reactions to the sample of 10 hues.

The MANOVA yielded significance only for hue, $F(27, 240) = 5.85$, $p < .001$. Significant .01-level main effects were obtained in the univariate analyses of all three dependent measures: pleasure, $F(9, 80) = 21.21$; arousal, $F(9, 80) = 3.80$; dominance, $F(9, 80) = 3.06$.

Tukey's Multiple Comparison Procedure was used to test for simple effects of hue on each of the three dependent variables.

Effects of Color Wavelength on Pleasure

A difference exceeding 22.50 in mean pleasure ratings for any two hues (Tukey's $W = 22.50$) was significant at the .05 level. Figure 3 depicts a plot of mean pleasure responses to each of the 10 hues and is helpful in describing the significant findings. In Figure 3, the 2 complementary hues, purple and red–purple, are listed separately in the right-hand section of the graph.

Pleasure levels for blue, blue–green, green, red–purple, and purple were significantly greater than those for green–yellow, yellow, and yellow–red. Furthermore, pleasure levels for purple–blue and red were significantly greater than those for green–yellow and yellow. Finally, the pleasure level for yellow–red was significantly greater than that for yellow.

We analyzed data for the eight noncomplementary colors in a regression analysis in which wavelength was the independent variable and pleasure was the dependent variable. (The two complementary colors could not be included in the regression analysis, because these are not scaled alongside noncomplementary colors with respect to wavelength.)

Forty pleasure means (corresponding to five different colors in each of eight wavelength values) were available for analysis. Because the plot of actual means in Figure 3 suggests a curvilinear relationship, the regression analysis tested for effects of wavelength and $(\text{wavelength})^2$ on pleasure ratings. The results of this regression analysis are summarized in Equation 6, which is written for raw pleasure scores and wavelength values of the color samples in the Munsell system. Significance of effects was assessed at the .05 level. The multiple regression coefficient for Equation 6 is .68.

$$\text{Pleasure} = 1561 - 5.48(\text{Wavelength}) + .0048(\text{Wavelength})^2 \quad (6)$$

Figure 3 also shows predicted pleasure scores, computed from Equation 6, for the eight noncomplementary wavelengths. The plot of predicted pleasure values in Figure 3 shows that Equation 6 provides only a rough approximation of the obtained means: Pleasure–displeasure reactions to noncomplementary colors were approximately a U-shaped function of wavelength, with yellows (green–yellow, yellow, and red–yellow) at the bottom portion of the U.

The latter findings were generally consistent with hypotheses derived from review of the literature. Nevertheless, the present findings provided a more concise way of describing relations of hue to pleasure: Short-wavelength hues were rated as being the most pleasant, with intermediate-wavelength hues being assigned low levels of pleasantness. Furthermore, yellow–red and red (the long-wavelength hues) reversed this trend and showed an increase in pleasure ratings. Finally, complementary colors (red–purple and purple) elicited high pleasure ratings comparable to ratings for the short-wavelength noncomplementary colors.

Effects of Color Wavelength on Arousal

As noted, the univariate effect of wavelength was significant for the dependent measure arousal. Using the Tukey test, a difference exceeding 4.55 in mean arousal ratings for

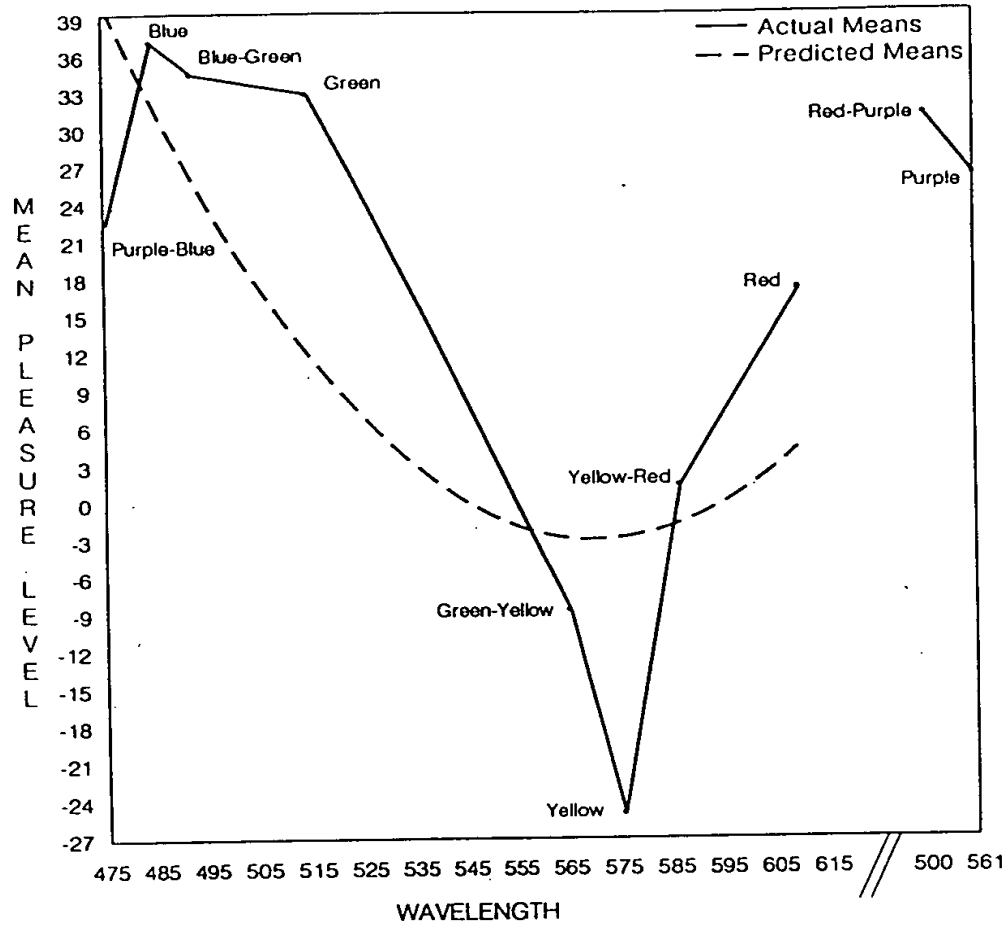


Figure 3. Actual and predicted average pleasure levels as functions of color wavelength in Study 2.

any 2 hues (Tukey's $W = 4.55$) was significant at the .05 level. Figure 4 provides a plot of mean arousal responses to each of the 10 hues. In Figure 4, the 2 complementary hues, purple and red–purple, are listed separately in the right-hand section of the graph.

The results given in Figure 4 did not support any of the hypothesized relationships between hue and arousal. Instead, the findings in Figure 4 showed that mean arousal level for green–yellow was significantly greater than the mean arousal levels for purple–blue, yellow–red, and red–purple. Also, the mean arousal level for blue–green was significantly greater than the mean arousal level for purple–blue.

We used a regression analysis to test for possible significance of a parabolic relationship of arousal (the dependent variable) to wavelength (the independent variable). Significance was not obtained for either the linear component of wavelength or for $(\text{wavelength})^2$.

The obtained results relating hue and arousal were generally weak and nonsignificant. The only noteworthy generalization is that the green hues (green–yellow, blue–green, and green) elicited the highest arousal reactions from subjects. In this context, it is interesting to note that some fire departments are replacing their traditional highly saturated red trucks with trucks that have been painted green–yellow. The changeover to green–yellow as a choice for an attention-getting (or highly arousing) color is most appropriate in terms of the present findings.

Effects of Color Wavelength on Dominance

The univariate effect of wavelength was significant for the dependent measure of dominance. Using the Tukey test, a difference exceeding 12.48 in mean dominance ratings for any 2 hues (Tukey's $W = 12.48$) was significant at the .05 level. Figure 5 depicts a plot of mean dominance responses to each of the 10 hues.

No hypotheses had been offered regarding relationships of hue to dominance. The obtained results, shown in Figure 5, were generally weak and nonsignificant. The only pattern of significant differences was as follows: Green–yellow and

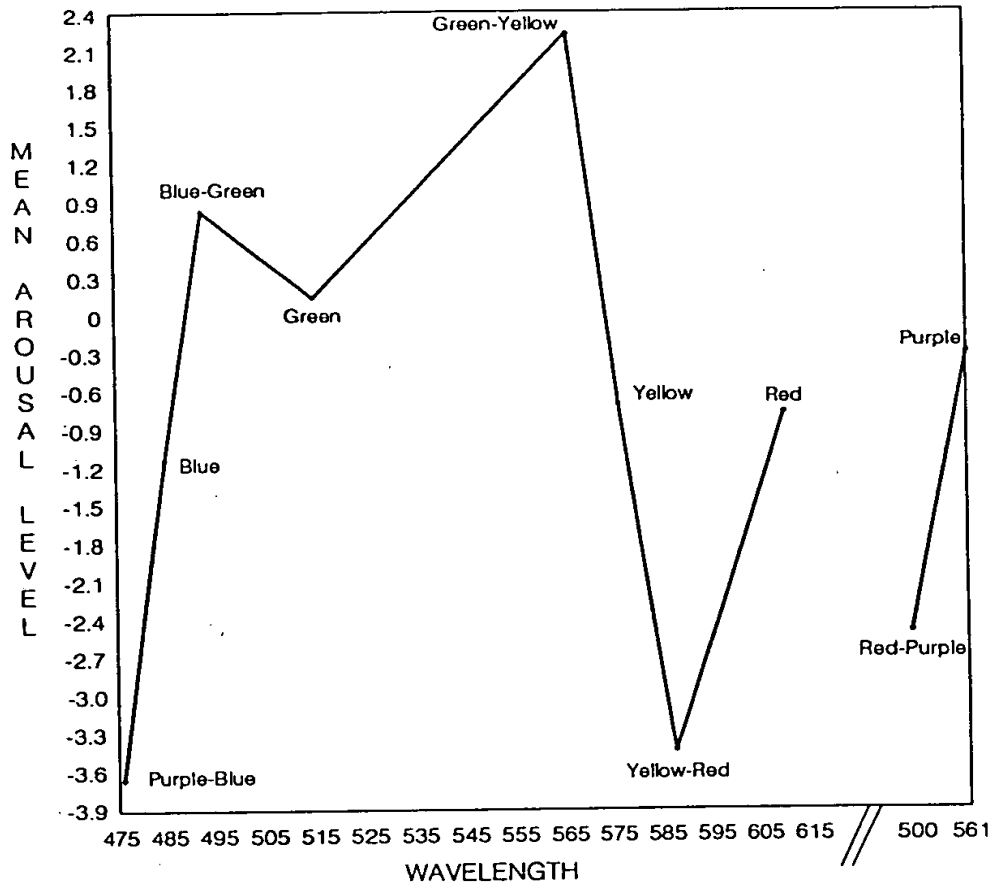


Figure 4. Mean arousal level as a function of color wavelength in Study 2.

yellow were rated as significantly more dominant than red–purple.

General Evaluation of Effects of Hue on Emotions

Findings in the present study that bear on relationships of hue to emotions were much weaker than anticipated. Although effects of hue on emotions were expected to be weaker than the effects of brightness and saturation, results were nevertheless disappointing. In particular, results relating hue to arousal and dominance were weak. In comparison, results bearing on relationships of hue to pleasure were far more detailed and provided substantial support for the corresponding hypotheses.

Study 3

In Study 3 we focused on the emotional impact of achromatic colors (i.e., white, three greys, black). Each subject judged all five samples.

Method

Subjects

Subjects were 25 University of California undergraduates (7 men, 18 women) who served in partial fulfillment of a course requirement.

Materials and Setting

Five achromatic color samples (corresponding to Munsell brightness values of 3, 12, 30, 43, and 79) were selected to represent the entire brightness dimension. The testing room, lighting, presentation of each color sample framed in the window of a middle-grey background, and emotional-state measures were identical to those used in Study 1.

Procedure

Subjects were run 2 at a time. Each subject rated his or her emotional reactions to all five achromatic color samples, one at a time. Subjects received instructions analogous to those in Study 1. Order of presentation of the five color samples was randomized across subjects.

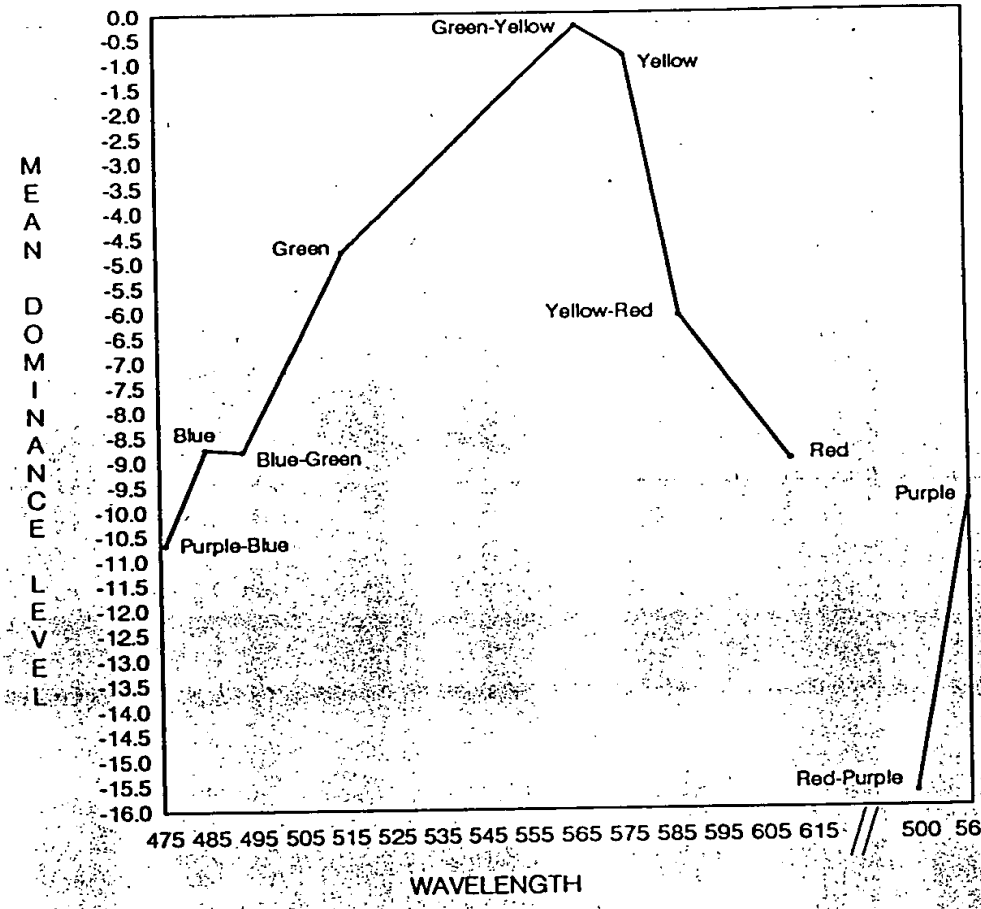


Figure 5. Mean dominance level as a function of color wavelength in Study 2.

Results and Discussion

Reliabilities of the Dependent Measures

The 25 subjects in Study 3 each rated five achromatic color samples, thus providing 125 pleasure, arousal, and dominance ratings. Alpha reliability coefficients were .98 for the pleasure scale, .80 for the arousal scale, and .93 for the dominance scale.

Computation of Averaged Emotional Reactions to Each Achromatic Color Sample

Five achromatic color samples (ranging from white to black) represented brightness variations only. Each color sample was rated by 25 subjects. As in Studies 1 and 2, we computed average pleasure, arousal, and dominance for each color sample across all subjects who rated that sample. These averaged emotional-response scores were used in subsequent data analyses.

Nonlinear Regression Analyses

We conducted three regression analyses to test for poss ble second-order curvilinear relationships between brigh ness (the independent variable) and pleasure, arousal, a dominance (the three dependent variables). Each regressi analysis tested for possible significant effects of brightne and $(\text{brightness})^2$ on each dependent measure. Significan was assessed at the .01 level, and the results are summariz in Equations 7, 8, and 9.

$$\text{Pleasure} = .71(\text{Brightness}) \quad ($$

$$\text{Arousal} = 8 - 0.6915(\text{Brightness}) + .0073(\text{Brightness})^2 \quad ($$

$$\text{Dominance} = 25 - 1.2675(\text{Brightness}) + .0088(\text{Brightness})^2 \quad ($$

Equation 7 is written for standardized variables a shows a multiple regression coefficient of .71. Equation

and 9 are written for raw values of arousal and dominance and for brightness values given in the Munsell system. Multiple regression coefficients are .47 and .65 for Equations 8 and 9, respectively. Plots of the actual and predicted mean values of arousal and dominance as functions of brightness are given in Figures 6 and 7, respectively.

The positive relationship between brightness of achromatic colors and pleasure, given in Equation 7, had been hypothesized. As expected, pleasure reactions increased as color samples ranged from black, through greys of increasing brightness, on to white. Stated otherwise, black was rated as least pleasant, greys were assigned intermediate values in pleasantness, and white was the most pleasant. The relationship between brightness and pleasure was very strong (note the beta weight of .71 in Equation 7) and highly significant.

The relationship of arousal to brightness of achromatic colors is given in Equation 8. No corresponding hypothesis had been offered. The results, plotted in Figure 6, show that arousal reactions to achromatic colors were a U-shaped function of brightness: Arousal response was greatest to black, diminished steadily for the three successive greys of increasing brightness, but increased to an intermediate value for white. Figure 6 also shows that the obtained arousal means for all five levels of brightness were predicted extremely well by Equation 8.

The relationship of dominance to brightness of achromatic colors is given in Equation 9. A negative relationship

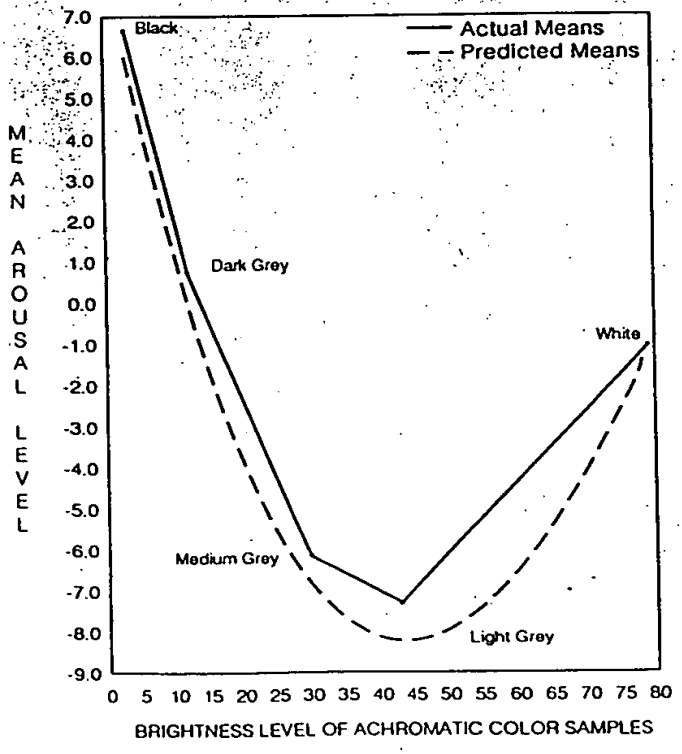


Figure 6. Actual and predicted average arousal levels as functions of brightness of achromatic colors in Study 3.

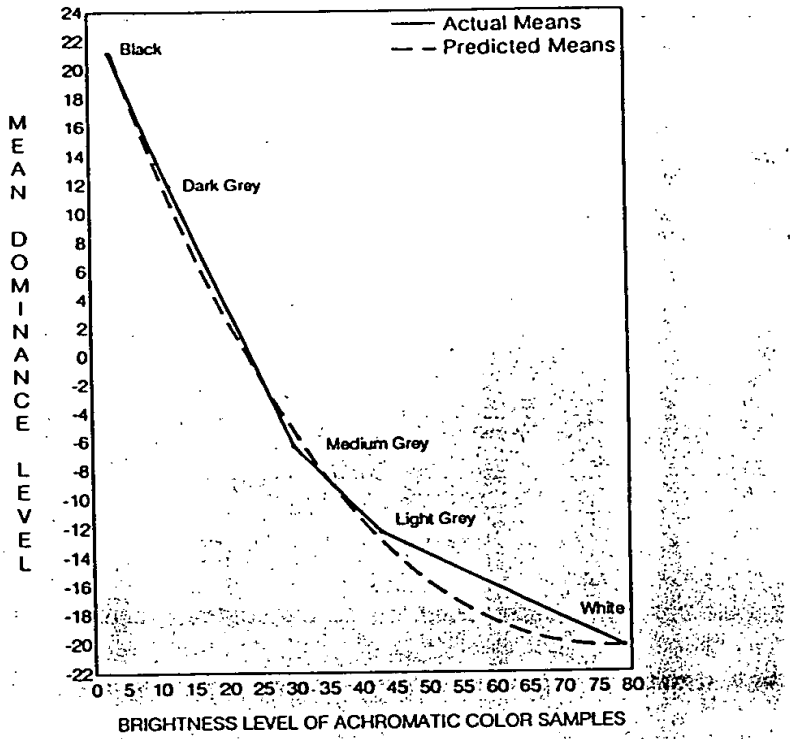


Figure 7. Actual and predicted average dominance levels as functions of brightness of achromatic colors in Study 3.

between dominance and brightness had been hypothesized. Results plotted in Figure 7 support this hypothesis but show the relationship to be parabolic: Although dominance decreased monotonically with increasing brightness, the slope became less steep for brighter colors. Thus, the color black elicited the highest level of dominance, greys elicited intermediate levels of dominance, and white elicited the lowest level of dominance. Figure 7 also shows that the obtained dominance means for all five levels of brightness were predicted extremely well by Equation 9.

General Discussion

Summary of Major Findings

The present studies provided highly consistent evidence regarding strong and highly predictable relationships of color brightness and saturation to emotional reactions. In comparison, relationships of hue to emotions were surprisingly weak, particularly for arousal and dominance reactions.

Effects of Brightness and Saturation

Results given in linear Equations 1–3 (or in Table 1) provided a surprisingly accurate description of the effects of color brightness and saturation on emotions. In addition,

Figures 1 and 2 provide further refinements regarding effects of very high brightness (i.e., the lightest colors).

Pleasure was simply a joint positive function of color brightness and saturation, being influenced more by brightness than by saturation. Arousal increased linearly and strongly with color saturation. Also, arousal was a ladle-shaped function of color brightness: It decreased with increases in color brightness up to a Munsell brightness value of 43. Beyond that brightness level, arousal reversed and increased slightly for the highest level of brightness tested (Figure 1).

Dominance increased linearly and moderately with color saturation and decreased sharply with increases in color brightness up to a Munsell brightness value of 43. Dominance leveled off beyond that brightness level (Figure 2).

Findings for the effects of brightness of achromatic colors in Study 3 were very similar to those obtained for chromatic colors in Study 1, which are summarized above. Pleasantness of achromatic colors correlated .71 with brightness (as compared with a corresponding beta weight of .69 in Equation 1 for chromatic colors). As shown in Figure 6, arousal reactions to achromatic colors were a ladle-shaped function of brightness, paralleling the corresponding relationship shown in Figure 1 for chromatic colors. Dominance reactions to achromatic colors, shown in Figure 7, were a monotonically decreasing function of brightness and paralleled the corresponding relationship for chromatic colors shown in Figure 2.

Artists and designers have often distinguished "warm" versus "cool" colors and have assumed that warmer colors induce greater activity (e.g., Hogg, 1969). Mehrabian and Russell (1974, Ch. 4) reviewed findings showing that judgments of color warmth were highly reliable and that color warmth–coolness was a positive correlate of color saturation and a negative correlate of color brightness. The present findings did indeed show consistent patterns of response to cool colors (low saturation, high brightness) versus warm colors (high saturation, low brightness), supporting the more intuitive groupings and interpretations of colors offered by practitioners of the arts.

Effects of Hue

Findings in Study 2 regarding emotional reactions to color hue tended to be weak. Nevertheless, as shown in Figure 3, consistent support was obtained for proposed hypotheses relating pleasure to hue (or wavelength). Blue, blue–green, green, purple–blue, red–purple, and purple were the most pleasant; whereas yellow, green–yellow, and red–yellow were the least pleasant; with red being rated at an intermediate value of pleasantness.

In comparison, far weaker results were obtained relating hue to arousal or to dominance. The most arousing hue was green–yellow, followed by blue–green and green, whereas the least arousing hues were purple–blue, yellow–red, and red–purple (Figure 4). Finally, dominance reactions were greatest to green–yellow and yellow and differed from reactions to red–purple, which elicited submissive feelings.

The latter weak findings failed to support hypotheses bearing on the relationships of hue to arousal (no hypotheses had been offered for hue in relation to dominance). Findings bearing on color saturation and brightness in relation to arousal (Study 1) helped explain some of the common errors in assessing effects of hue on arousal. Examination of the Munsell color chips for each hue shows that there are systematic differences in saturation and brightness of colors considered typical or representative of each hue. For example, the samples of red that are commonly used in experiments are typically of very high saturation. This accounts for the common error in inferring that red is arousing. In fact, it is the high saturation of the red color samples used, rather than its hue, that accounts for the high levels of arousal observed.

Thus, many commonly held assumptions regarding the effects of color hue on arousal can be seen as being due to systematic confounding, in previous studies, of hue with brightness, saturation, or both, in assessing the arousing effects of hue. The hue–arousal hypotheses offered here were based primarily on physiological studies that assessed GSR reactions of subjects to rooms (or to slide projections) described as "green" or "red." All experiments that served as the basis for the proposed hypotheses failed to control for brightness and saturation effects in investigating effects of hue on arousal.

Theoretical Rationale for the Present Findings

A systematic theoretical explanation of the patterns of consensus reactions to color obtained here is beyond the scope of this paper. Nevertheless, it is useful to note Adams and Osgood's (1973) discussion of mechanisms that could explain consensus reactions to color—physiology of vision and commonly shared experiences with the environment. Their comments can be restated as follows in reference to the present findings. Physiological explanations are exemplified by the idea that photoreceptors may be stimulated more strongly by more saturated and darker colors, thus accounting for the association of such colors with high-arousal and high-dominance emotions. Common environmental experiences are illustrated by the association of clean and light-colored objects and their contrast with dirty and dark-colored ones. Although the latter are mere speculations, they may help identify fruitful avenues in the pursuit of a theoretical rationale to explain shared emotional reactions to color.

Implications Regarding the Emotion–State Measures

Assessments of emotional responses to color were reasonably comprehensive. We used the PAD emotion model and associated measures (Mehrabian, 1978, 1980); the PAD model was helpful in formulating general conclusions from previous experimental work that had used a large variety of apparently unrelated measures of emotional reactions to color.

Reliabilities of the PAD emotion scales were consistently high and satisfactory. Across all three studies, alpha reliability coefficients averaged .97 for the pleasure–displeasure scale, .80 for the arousal–nonarousal scale, and .91 for the dominance–submissiveness scale.

Validity of the PAD scales has been established in a large number of studies (e.g., Mehrabian, 1980, 1987). Indirect and tangential assessments of validity were provided here by the extent to which hypotheses derived from the literature were supported. With one exception, all hypotheses relating saturation and brightness to emotional reactions were supported. Failure to support the brightness–arousal hypothesis was explained readily by noting a systematic bias in the selection of highly arousing colors in previous experiments: Typically, experimenters have confounded high saturation with high brightness in investigating effects of brightness on arousal, thereby leading to the present incorrect hypothesis regarding that relationship.

A striking pattern of findings from the present studies also provided construct validity for the PAD scales. Study 1 yielded relationships of color brightness to pleasure, arousal, and dominance for a large sample of chromatic colors. In comparison, Study 3 provided the same relationships for a sample of achromatic colors. As noted in the summary of findings above, these findings for chromatic and achromatic colors were analogous. The similarity of color brightness–emotional reaction relationships in Studies 1 and 3, despite nonoverlapping samples of subjects and stimuli, provided strong evidence not only of replicability of the present findings but also of construct validity of the measurement instruments.

A final issue bearing on the PAD measures pertains to affect–cognition relationships. The adequacy and relevance of verbal-report measures for assessing emotional reactions to color may be questioned. In particular, one may argue that such reports can be attributed to cognitive reactions (e.g., learned conceptual associations to color names) rather than to physiological or visceral responses. A narrow answer to this argument is that the experimental procedure was designed deliberately to elicit emotional, rather than cognitive, reactions to the colors. Thus, no references to color names were made, and subjects were presented simply with various color samples and asked, specifically, to indicate how each sample made them *feel*.

On a more general level, although our procedures focused on emotions, the theoretical basis of the PAD emotion model suggests strong associations between cognition and affect. Indeed, the PAD scales are analogues of the Evaluation, Activity, and Potency factors which, in turn, may be characterized as the lowest common denominators of cognitive response. Thus, within the PAD model, the most rudimentary cognitive judgments (such as those that adult humans share with infants or animals) cannot be distinguished easily from emotional reactions. Instead, emotional responses are viewed as providing the essential foundation to cognitive judgments (i.e., attitudes, judgments, or preference are not considered possible in an emotional vacuum).

The association between affect and cognition is likely to be strongest in psychological functions that develop without the benefit of instruction or formal education (i.e., where cognition is unsophisticated and rudimentary). Because reactions to colors or odors exemplify such functioning, using the PAD scales to measure reactions to color is likely to produce emotion-based assessments.

Sex Differences

Results in Study 1 (Table 1) showed that men and women responded with highly similar emotional reactions to variations in color saturation and brightness. However, a small, though consistent and statistically significant, difference showed that women were more sensitive to brightness and saturation than men; that is, they exhibited more extreme emotional reactions to varying levels of color brightness and saturation.

Results in Study 2 showed that the multivariate Hue × Sex interaction on pleasure, arousal, and dominance was not significant. Thus, we inferred that men and women responded with similar emotional reactions to various hues (or wavelengths).

Together, findings from Studies 1 and 2 showed that emotional reactions to colors tended to be surprisingly similar for men and women. Large differences in magnitudes of effects or dramatic reversals of effects were totally lacking when comparing men's and women's reactions to colors.

Generalizability of Findings

A weak case for generalizability of findings can be made from findings in Study 1 that showed more saturated colors elicited greater feelings of arousal. Certain colors have been shown to elicit higher levels of GSR, pulse rate, or blood pressure in laboratory situations. Our preceding discussion suggested that the color samples that have been used (typically, red vs. green) also have exhibited differences in saturation values. Thus, more saturated colors (e.g., highly saturated red rooms or 3-ft × 5-ft [0.9-m × 1.5-m] projections of red) have elicited greater levels of arousal than have the less saturated greens used in the studies.

Findings relating brightness to emotions in Studies 1 and 3 provided a much stronger case regarding generalizability of the present findings to situations outside the laboratory. Findings in both studies showed that brighter colors (e.g., whites, light greys, or lighter colors) are more pleasant, less arousing, and less dominance-inducing than are the less bright colors (e.g., dark greys, blacks, and darker colors).

Using the abbreviations P for pleasure, A for arousal, and D for dominance, the effect of brightness is thus summarized as follows:

$$\text{Brightness} = +P - A - D \tag{10}$$

or

$$\text{Darkness} = -P + A + D. \tag{11}$$

The constellation $-P + A + D$, elicited by dark colors, represents emotions such as anger, hostility, or aggression.

For instance, Mehrabian and O'Reilly (1980) obtained Equation 12 for Jackson's (1967) measure of aggression, and Russell and Mehrabian (1974) obtained Equation 13 for anger.

$$\text{Aggression} = -.36\,P + .20\,A + .28\,D \quad (12)$$

$$\text{Anger} = -.74\,P + .36\,A + .09\,D \quad (13)$$

Thus, one generalization from the present findings is that darker colors are likely to elicit feelings that are similar to (or weaker variants of) anger, hostility, or aggression. Darker colors are also expected to elicit feelings that constitute components of aggression, anger, or hostility (e.g., displeasure, high arousal, or dominance).

Results obtained by Frank and Gilovich (1988) were consistent with the preceding formulations. Black uniforms, compared with nonblack uniforms, not only were associated with greater degrees of perceived aggression but also led to higher levels of aggressive behavior. Also, Damhorst and Reed (1986) showed that models wearing dark jackets were rated as more powerful and more competent than models wearing light jackets. Indeed, brightness of clothing had a stronger effect than facial expressions on viewer perceptions of potency. Thus, Damhorst and Reed's findings were also consistent with the present results in that they both show that darker colors are associated with greater dominance.

A third example of generalization from the present findings bears on reports from correctional facilities regarding the calming and aggression-reducing effects of Baker–Miller pink (Schauss, 1981). The color sample we used in the present studies that is closest to Baker–Miller pink is a bright, low-saturation, red–purple. Red–purple was shown to elicit low arousal levels (Figure 4), brighter colors were less arousing (Table 1), and less saturated colors were less arousing (Table 1). Thus, by virtue of its high brightness, low saturation, and red–purple hue, Baker–Miller pink was shown in the present studies to elicit low levels of arousal.

In addition, bright and low-saturation colors were shown here to elicit low levels of dominance (Table 1). Furthermore, the hue red–purple received the lowest score on dominance (Figure 5). Thus, Baker–Miller pink was shown here to also elicit low levels of dominance. Insofar as reductions of arousal and of dominance tend to reduce aggression or anger (note Equations 12 and 13), the preceding observations of inmates in correctional facilities, then, provide an interesting case for generalization of the present findings to real-life situations.

In a similar vein, Weller and Livingston (1988) found that subjects were less upset when they read about murder or rape printed on pink paper rather than on blue or white paper. Thus, pink elicited less anxiety or anger than blue or white; this is again consistent with the present findings.

Overall, then, evidence available from studies that have used a variety of color stimuli (including colored objects, rooms, or clothing), when interpreted within the PAD Emotion Model, tends to be consistent with results obtained in the present studies. Thus, we conclude tentatively that our results can be generalized to color stimuli encountered in everyday situations.

However, it is noteworthy that the context in which color is used can have a substantial bearing on generalizability of the present findings. Although the present data indicated blue to be a pleasant color, blue hair or blue food, for instance, are not expected to elicit pleasant reactions. On the contrary, such stimuli may elicit unpleasant reactions because of the inappropriateness of the color on the particular stimulus (hair or food). Thus, findings given here are expected to have relevance only in situations in which colors are reasonable and probable elements of those situations.

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Received April 8, 1994
Revision received June 27, 1994
Accepted July 5, 1994 ■

Figure 1–5
Max Wertheimer

Max Wertheimer was the founder of Gestalt psychology. His guiding principle was that mental content and behavior are different from the sum of their parts.

Gestalt Psychology

Gestalt psychology was a different kind of reaction to structuralism. The Gestalt movement began in Germany in the early part of the twentieth century, about the same time as behaviorism began to dominate American psychology. Gestalt psychology is a broad, research-oriented point of view toward behavior. It is not to be confused with a recent innovation in psychotherapy called Gestalt therapy (see Chapter 12). The German word *Gestalt* has no exact English translation. Roughly speaking, it means form or organized whole, reflecting the emphasis of this school on organizational processes in behavior. Whereas the focal problem of behaviorism was learning, Gestalt psychologists chose primarily to work with perceptual problems and sought to prove Wundt wrong in the very area that Wundt himself chose to emphasize. As a result, Gestalt theory is often identified as a theory of perception—although its principles are logically applicable to a broad range of psychological issues.

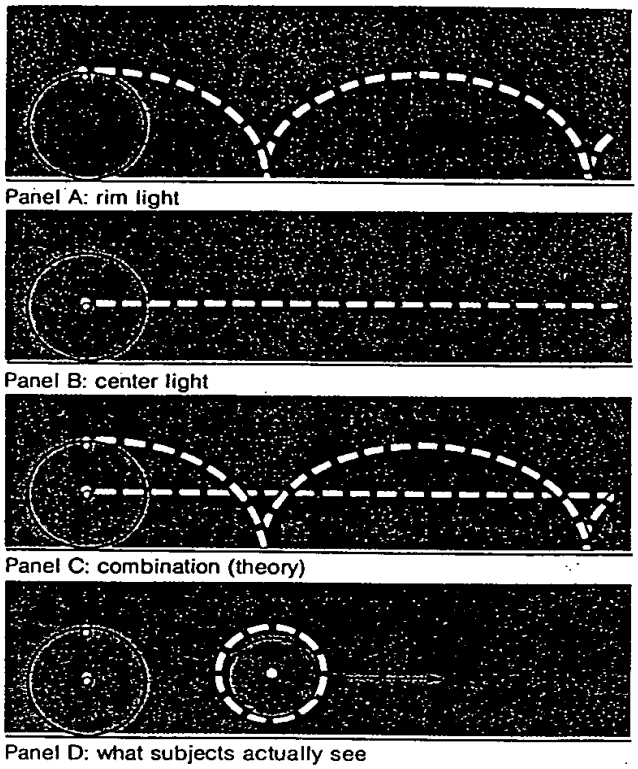
Behaviorists, like the structuralists, accepted the basic scientific idea that complex phenomena had to be analyzed into their simpler parts before they could be understood. The main proponents of Gestalt psychology, Wolfgang Köhler (1887–1967), Kurt Koffka (1886–1941), and Max Wertheimer (1880–1943), opposed the structuralists' efforts to reduce experience to a small set of fundamental component parts. They seized on other ideas from physical science, particularly the notions of field theory in physics, arguing that the whole of a phenomenon is different from the sum of its parts (see Figure 1–5). For example, from a series of still

pictures, you perceive continuity of action in a movie. There is movement even in the neon lights on a theater marquee. Both of these effects are based on the phenomenon of *apparent movement,* identified by early Gestalt psychologists. Figure 1–6 shows another example of how perception of a whole can differ from perceptions of its parts.

Gestalt theory can be applied to nearly all important forms of behavior. Köhler, for example, argued that learning and problem solving, like perception, are largely a function of organizational processes. How to behave in a particular situation may elude subjects until they see the various components of the task in their appropriate relationship. The situation is a problem primarily because the correct or necessary relationship among the elements is not easily seen. The subject's behavior may take the form of overt trial and error or covert "thought." But the subject must take a variety of perspectives on the situation until the correct one emerges. When it does emerge, the subject experiences a "moment of insight." Finally the problem is solved and, in a flash, the subject knows what to do. Notice the persistent use of terms related to perception, such as "seeing," "perspective," and "experience," in the foregoing description. This is a consistent theme within Gestalt explanations of behavior. Note also the implication that learning and problem solving are "all-or-none," insightful processes. This is another major principle that distinguishes Gestalt psychology from other theoretical attempts to deal with learning.

From many examples like those given above, the Gestalt school argued against the utility of describing integrated human action by a mere analysis of component parts. They were concerned with the completeness, the continuity, and the meaningfulness of behavior as a whole.

Figure 1–6
The Gestalt approach to perception



Here is an interesting perceptual effect that demonstrates one of the basic Gestalt principles of perception. It suggests that we do not perceive an event merely by adding up the perceptions that we have of the separate parts. A wheel is rolled from left to right across a table in a dark room. In the top panel, a light is attached to the rim of the wheel and the dashed line indicates what subjects perceive. The second panel shows our perception of a light attached at the center of the wheel. Panel C indicates what the geometric sum of the motions of the rim light and center light should look like. Panel D is what subjects *actually* perceive.

Psychoanalysis

Psychoanalysis, the theoretical point of view identified with Sigmund Freud (1858–1939), was less a reaction to structuralism than an effort to apply science and medicine to the study and treatment of abnormal behavior. (Several portraits of Freud appear on page 353 in Chapter 9.) Psychoanalysis has been called the third great intellectual blow to human pride. First, we human beings found that we are not at the center of the universe; then, we discovered that we are descended from apes; and, finally, Freud argued that we are basically controlled by impulses, many of which are buried in the unconscious, below the level of awareness. The view that human beings are rational and in conscious control of their behavior was weakened when Freud described the behavioral impact of early

EXHIBIT C - ASSIGNMENT DOCUMENTS

1. Employee and Consultant Patent and Confidential Information Agreement signed by Engineer David Pitcher (1 page).

2. Notice of Recordation of Assignment Document, Recordation Form Cover Sheet, and Assignment Agreement signed by the Applicant Noel Lee in favor of Monster Cable Products, Inc. (4 pages).

Monster Cable Products, Inc.

Employee and Consultant Patent and Confidential Information Agreement

In consideration of my employment or consultation agreement with Monster Cable Products, Inc. (hereinafter, "Monster") and/or its predecessors or successors in business, and of the payment of wages or fees during the continuance of such employment or consultation, I hereby agree:

1. To disclose promptly and fully to Monster or its nominee, all inventions, improvements or discoveries made or conceived by me, solely or jointly with others, in the course of such employment or consultation or with the use of Monster's time, material or facilities, or related to or suggested by the business, work or instigations of Monster, or of the companies it owns or controls at the time of such inventions.

2. To assign to Monster or its nominee, all right, title or interest in and to all inventions, improvements and discoveries, and that all such inventions, improvements or discoveries shall for all purposes be deemed as acquired and held by me in a fiduciary capacity solely for the benefit of Monster, its successors or assigns, until the entire right, title or interest thereto have become vested in Monster, its successors, assigns or nominees.

3. To assist Monster or its nominee during and subsequent to my employment or consultation in every proper way (entirely at Monster's expense) (a) to obtain for Monster's benefit patents for such inventions in any and all countries, and (b) in any controversy or legal proceeding relating to such inventions, improvements or discoveries, or to the patents resulting therefrom.

4. Not to disclose directly or indirectly to any unauthorized person without Monster's prior written permission at any time during or subsequent to my employment or consultation all knowledge not already available to the public which I acquire during the course of my employment or consultation with Monster including, but not limited to, invention; designs; methods; systems; improvements; new projects; marketing information and strategies; source of suppliers; sales figures; advertising, marketing or promotive strategies; trade secrets, customer information, or other private or confidential matters acquired in the course of my employment or consultation.

5. Upon leaving the employ of Monster, or upon termination of the consultation agreement, to deliver promptly to Monster, all written and graphic material, tools and equipment, (other than owned by me) in my possession or under my control relating to the business, work or investigations of Monster.

6. Upon termination of my employment or consultation agreement with Monster, not to compete with Monster, join, or otherwise work for, any company, or other organization, in competition with Monster for a period of five (5) years after termination of this agreement.

7. I represent that, except as stated on the reverse of this Agreement, I have no agreements with or obligations to others in conflict with the foregoing.

The provisions of this Agreement shall be binding upon my heirs, executors, administrators or other legal representatives or assigns.

Witnessed:

Title: HR

Employee or Consultant

Date: 4/24/91

Monster Cable Products, Inc. 274 Wattis Way, South San Francisco, CA 94080 (415) 871-6000

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BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
LEE, NOEL

DOC DATE: 06/03/1998

ASSIGNEE:
MONSTER CABLE PRODUCTS, INC.
455 VALLEY DRIVE
BRISBANE, CALIFORNIA 94005-1209

SERIAL NUMBER: 60070317
PATENT NUMBER:

FILING DATE: 01/02/1998
ISSUE DATE:

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FORM PTO-1595 — DEPARTMENT OF COMMERCE — Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

NOEL LEE

Additional name(s) of conveying party(ies) attached? ☐ Yes ■ No

2. Name and address of receiving party(ies):

MONSTER CABLE PRODUCTS, INC.

Internal Address:

Street Address: 455 Valley Drive

City: Brisbane State: CA Zip: 94005-1209

Additional name(s) & address(es) attached? ☐ Yes ■ No

3. Nature of conveyance: 6-23-98

■ Assignment ☐ Merger

☐ Security Agreement ☐ Change of Name

☐ Other

Execution Date: June 3, 1998

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s) B. Patent No.(s)

60/070317

Additional numbers attached? ☐ Yes ■ No

5. Name and address of party to whom correspondence concerning document should be mailed

Name: Victor Flores

Internal Address: LaRiviere, Grubman & Payne

P800

Street Address: 4 Justin Court, Suite A

P.O. Box 3140

City: Monterey State: CA Zip: 93942

6. Total number of applications and patents involved: One

7. Total fee (37 CFR 3.41): ..... $ 40.00

■ Enclosed

☐ Authorized to be charged to deposit account

8. Deposit Account number:

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Victor Flores — Victor Flores — June 23, 1998

Name of Person Signing — Signature — Date

Total number of pages comprising cover sheet: 1

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ASSIGNMENT AGREEMENT

FOR good and valuable consideration, receipt of which is hereby acknowledged, NOEL LEE, hereinafter ASSIGNOR, does hereby sell, assign and transfer unto MONSTER CABLE PRODUCTS, INC., doing business at 455 Valley Drive, Brisbane, CA 94005-1209, hereinafter ASSIGNEE, its successors and assignees, the entire title, interest and right, including the right of priority, in an application for Letters Patent of the United States entitled APPARATUS AND METHOD FOR POWERING MULTIPLE PERIPHERAL DEVICES FROM A CENTRAL POWER SOURCE, filed herewith, and the inventions and any of them therein set forth and described, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefor, and any and all provisional, divisional, reissue, continuation, substitute or renewal applications thereof which have been or shall be filed in the United States and any and all equivalents thereto in any and all foreign countries;

And for the above consideration ASSIGNOR covenants to assign to ASSIGNEE, under identical terms herein, any and all improvements which have been or shall be developed by ASSIGNOR regarding subject matter herein;

And for the above consideration ASSIGNOR agrees promptly upon request of the ASSIGNEE, its successors and assignees, to execute and deliver without further compensation any power of attorney, assignment, application (whether original, continuation, renewal, substitute, divisional or reissue) or other papers which may be necessary or desirable fully to secure to ASSIGNEE, its successors and assignees, the inventions and any of them described in said application and patent rights therein, in the United States and in any country foreign thereto, and to cooperate and assist in the prosecution of appeal and interference proceedings involving said inventions and/or in the adjudication or re-examination of said Letters Patent, provided that the expenses which may be incurred by ASSIGNOR in lending such cooperation and assistance be paid by ASSIGNEE; and

ASSIGNOR covenants that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by ASSIGNOR, and that full right to convey the same as herein expressed is possessed by ASSIGNOR.

This agreement constitutes the entire agreement of the parties and supersedes and cancels any and all prior and/or contemporaneous utterances, statements, representation, understandings

and/or agreements whether oral and/or written in connection with this agreement.

IN WITNESS WHEREOF, ASSIGNOR agrees to the above-mentioned terms and conditions as evidenced by their signatures below:

6/3/98
Date

STATE OF CALIFORNIA]
]
COUNTY OF San Mateo]

On June 3rd, 1998, before me, Myrla N. Hernandez,
personally appeared Ted Lee

_X_ personally known to me

OR _____ proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that ~~(s)~~he executed the same in his(~~her~~) authorized capacity, and that by his(~~her~~) signature on the instrument the person or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

MYRLA N. HERNANDEZ
Commission # 1157232
Notary Public - California
San Mateo County
My Comm. Expires Sep 29, 2001

Notary Public

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EXHIBIT D - CORPORATE DOCUMENTS

1. Monster Cable Products, Inc. Consolidated Financial Statements (Relevant Excerpts, 2 pages).

2. Monster Cable International, Inc. (Subsidiary) Stock Certificate held by Monster Cable Products, Inc. (Parent) (1 page).

KPMG

MONSTER CABLE PRODUCTS, INC. AND SUBSIDIARIES

Consolidated Financial Statements
and Supplemental Consolidating Information

December 31, 2000 and 1999

(With Independent Auditors' Report Thereon)

(1) Nature of Business

Monster Cable Products, Inc. and subsidiaries (the Company) manufacture and distribute a variety of audio, video, and computer cables; connectors; and related electronic materials for home and commercial use. The Company sells products throughout the world, and has operations based in the United States and Bermuda. The Company is owned by a sole shareholder and, effective January 1, 1997, elected to be treated under Subchapter S of the Internal Revenue Code.

(2) Summary of Significant Accounting Policies

(a) Principles of Consolidation

The accompanying consolidated financial statements include the financial statements of Monster Cable Products, Inc. and its wholly owned subsidiary, Monster Cable International, Ltd., a Bermuda corporation and parent of Monster Cable Products Israel, Ltd. (MCPI). All significant intercompany balances and transactions have been eliminated in consolidation.

(b) Revenue Recognition

Revenue from sales of products is recognized, net of estimated returns, when persuasive evidence of an agreement exists, delivery of the product has occurred, the price is fixed or determinable and collectibility is probable.

(c) Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting periods. Actual results could differ from those estimates.

(d) Short-Term Investments

As of December 31, 2000 and 1999, the Company classifies its short-term investments in a mutual fund as available-for-sale pursuant to Statement of Financial Accounting Standards (SFAS) No. 115, *Accounting for Certain Investments in Debt and Equity Securities*. Available-for-sale securities are carried at fair market value. Any unrealized gains or losses, net of tax, are recorded as a component of other comprehensive income (loss), which was not significant as of December 31, 2000 and 1999. The cost of investments sold is determined on the specific-identification method.

(e) Inventories

Inventories are stated at the lower of cost or market. Cost is determined using the first-in, first-out method.

(Continued)

No. 11

Registered in the Islands of Bermuda under The Companies Act, 1981

--7,200-- Shares

Monster Cable International, Ltd.

PAR VALUE OF SHARES US$1.00 **EACH**

THIS IS TO CERTIFY THAT Monster Cable Products Inc.

of 455 Valley Drive, Brisbane, California 94005, USA

is the registered holder

of --Seven thousand and two hundred---------- *shares of* U.S.Dollar One *each*

Fully *paid in the above named Company, subject to the Memorandum of Association and the bye-laws of the said Company, transferable in accordance therewith.*

Given under the Common Seal of the Company this 9th *day of* January XXX 2001

President

Director

Secretary